Vol. XI, No. 3 March, 1935

SOAP

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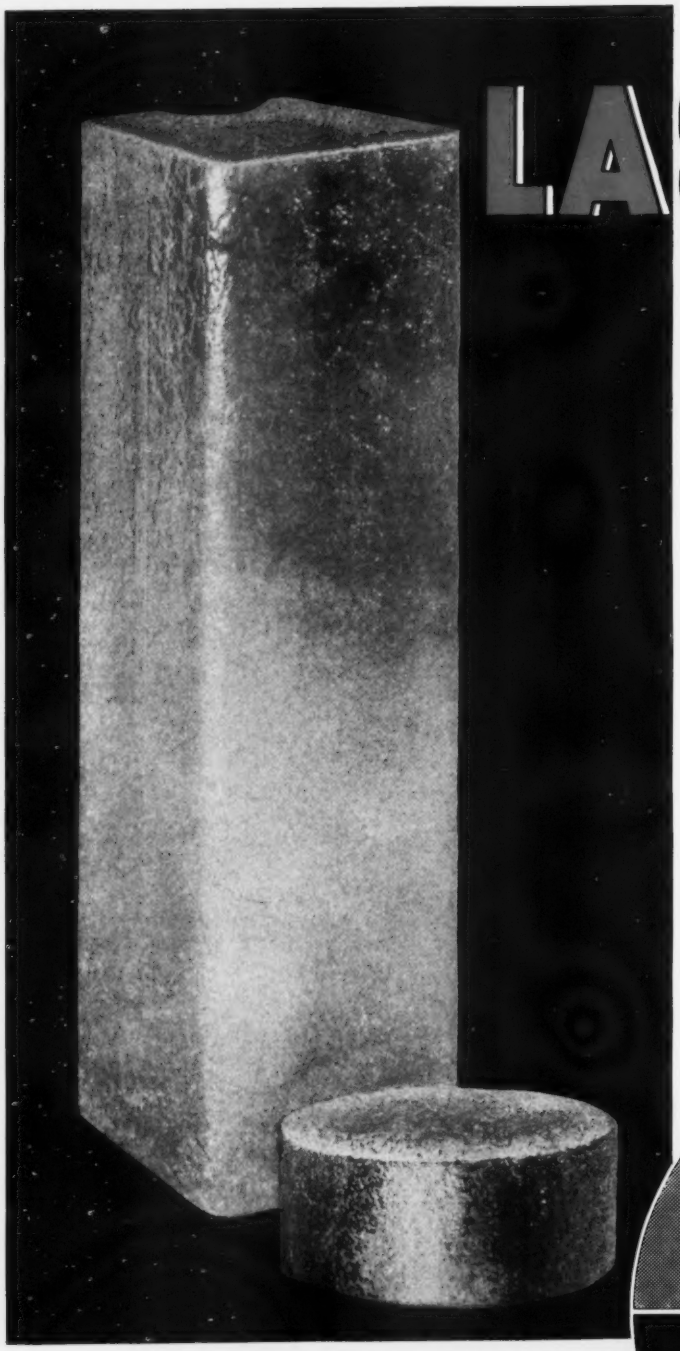

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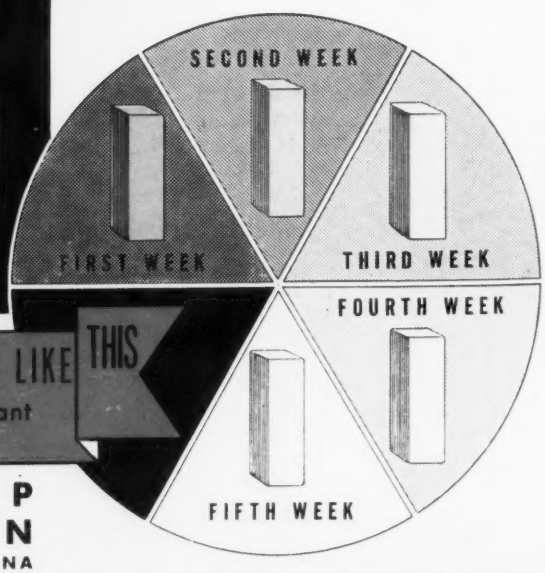

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SOAP

Reg. U. S. Patent Office

Volume XI
Number 3

March, 1935

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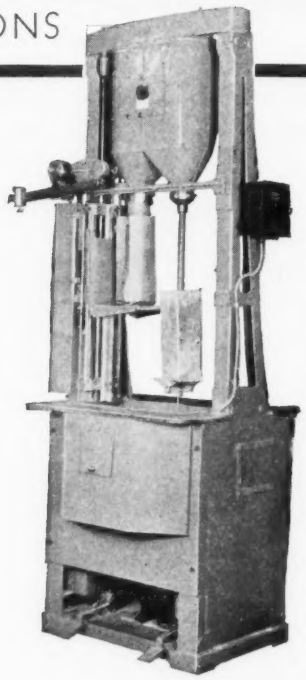

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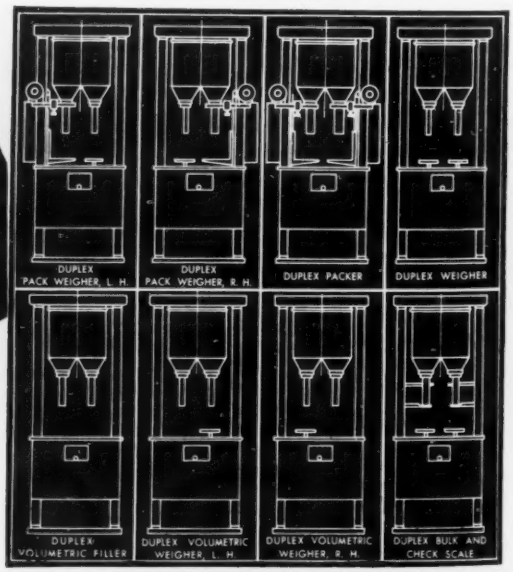

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Tenth Annual

DRUG, CHEMICAL AND ALLLIED TRADES DINNER

at the Waldorf-Astoria Hotel, New York March 21, 1935

* * *

THE annual dinner of the Drug, Chemical and Allied Trades Section of the New York Board of Trade is the outstanding trade event of the year with over twenty-five national and local associations and societies cooperating. Delegations from the trades in various cities of the Middle-west and East will be present. Last year, over 1,200 representatives of the drug, chemical, essential oil, disinfectant, toilet goods, soap, and allied groups attended.

THE main floor of the Waldorf ballroom, which is being restricted to 1,000 persons this year to avoid overcrowding, has been sold out, but tables of ten in the balcony are still available at six-fifty per person. For further details and reservations, communicate with

RAY C. SCHLOTTERER, *Secretary*
Drug, Chemical and Allied Trades Section
New York Board of Trade, 41 Park Row, New York

HERMAN G. WEICKER, *Section Chairman*
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"Place bug between blocks.
Snap blocks together hard.
Bug will die instantly."

• • •

TODAY, more than ever before, industry is realizing the impor-

tance of giving the consumer full value for his money. That such principles as those of the National Association of Insecticide and Disinfectant Manufacturers are not just "lofty idealism", but good, sound business judgment. That "quality" is more than a word to use in advertising—it is something to put into merchandise.

The Peet-Grady test deserves the whole-hearted support of every manufacturer in the industry. It is one of the most constructive steps ever taken to insure quality. But even a minimum test is not the final answer. We believe, as every wise manufacturer in the industry believes, that the *real* test is made in the *home*, not in the *laboratory*. That the real testers are Mr. and Mrs. Consumer. That only products that meet with *their* approval can enjoy lasting success.

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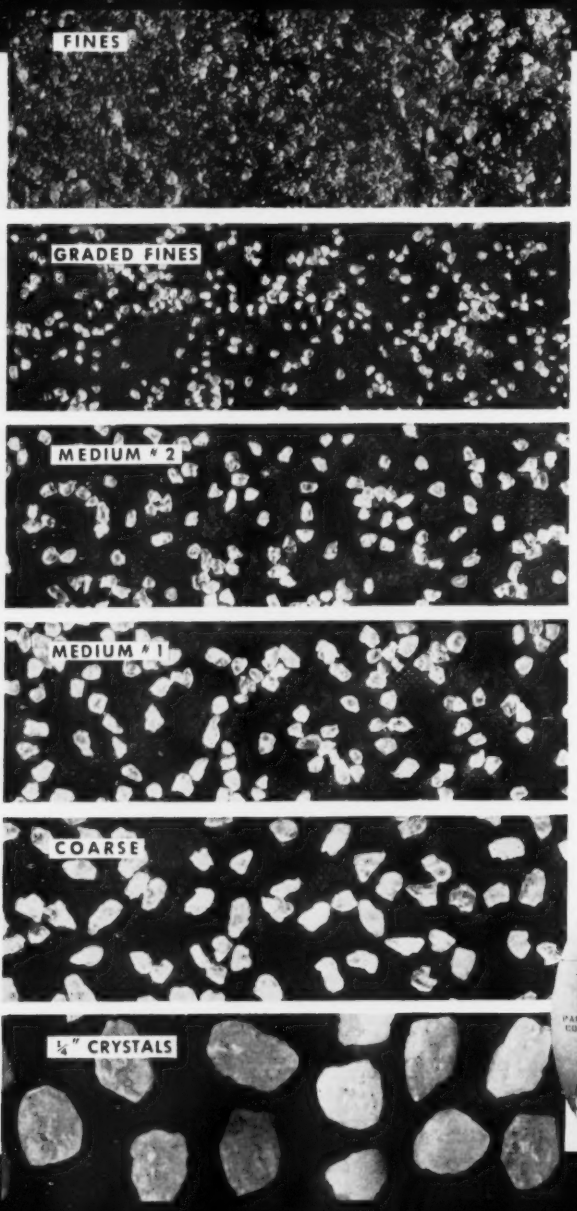
PURE PARADICHLORBENZENE



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SOAP

Volume Eleven Number Three

As the Editor Sees It . . . .

THE manufacturers of toilet soaps are concerned regarding the classification of their products as cosmetics under the Copeland Bill, which is the new food and drug bill now before Congress. Soap makers have always maintained that toilet soap is not a cosmetic, and in this stand they are backed by the dictionaries and the popular meaning of the word. A cosmetic is something which is designed to beautify the skin of the human body. Insofar as some toilet soap manufacturers have held out their products as "beauty soaps" and have claimed or implied in their advertising that beauty of skin would come from the use of their soaps, they may have brought the present situation on themselves. They have claimed a definite cosmetic value for their soaps, and have *themselves* classified their products as cosmetics.

The Copeland Bill, however, sets up its own definition of the term "cosmetic" and does not leave it to the classification which some manufacturers have inadvertently given their soaps. By including any product designed to cleanse the skin of the body, the Bill quite obviously includes all toilet soaps whether in the beauty soap classification or not. This inclusion of toilet soaps under the definition of cosmetic was no accident. The definition in the Bill was unquestionably broadened purposely beyond the generally accepted meaning of the word, probably as a direct result of much of the widespread advertising of "beauty soaps."

Be that as it may, toilet soap is not a cosmetic. To designate it as such arbitrarily merely because some person or group wants it classified in this way, does not alter the fact. This applies whether it be the definition of the Copeland Bill or whether it be the means used to force toilet soaps under the retail drug code over the protests of soap manufacturers.

—•—

IN a vein of subtle sarcasm, one of the best known potash soap manufacturers in the country describes in detail the manner in which some soap makers calculate costs and determine selling prices for their potash soap products. He describes the oft-committed mistake of basing selling prices on raw material cost instead of replacement cost with the result that in a rising market, such as we have had of late, sales are frequently made at figures below the actual current cost of raw material. His communication oozes disgust with the trade which places its faith in inventory profits, saying just when, where and how can such type of profits be spent or eaten. With or without relish or mustard, who wants to eat their stock of coconut or soya bean oil? And who can tender it in payment of bills? And as for the cooperative and competitive spirit of the potash soap industry, he muses. . . . .

It's great to be a soaper,
And with the soapers stand,
Good fellowship in every eye,
A knife in every hand.

We gather on the whole that this soaper does not have any great faith in his fellows of the soap business,—and after looking things over, especially in the price versus cost situation, for the past month or so, we can hardly blame him. To put it bluntly, only fools will fail to convert inventory profits into actual profits by basing their selling prices on current material replacement costs. If the market trend turns downward when high priced material is on hand, prices for finished soaps are forced to meet new

replacement levels. Then, why does not the same rule apply on the up trend? It should and it does where good common sense is the basis of pricing. But if soapers are big hearted enough to pass on all inventory profits to the consumer,—usually to the accompaniment of letters in the finest Pollyanna style in which the words "service" and "protection of our customers" play a prominent part,—it is the soapers' funeral. The disgust of our correspondent, however, based on what we have seen of late, seems to be altogether warranted. We, too, wonder when the trade is going to awake to the actual situation.

—♦—

AND if the intellect of the average potash soap maker is in line with the estimates of our above-mentioned correspondent, some explanation of the term "inventory profit" might be in order. In case his estimate is correct, we hasten to explain. Inventory profit is just like a paper profit in the stock market—the kind which everybody made back in 1929 and 1930. If you buy an oil for three cents per pound and the market goes up to six cents while the oil is still in storage or remains unsold in the form of soap, there is an inventory profit of one hundred per cent. As soon as the oil, or the soap made from the oil, is sold at the higher price, the inventory profit is turned into cash and becomes an actual profit,—that is if you get your money. Now suppose the oil were made into soap and sold at a price based on three-cent oil, then the inventory profit is being passed on to the customer in full. But if the soap is sold at a price based on six-cent oil, the price is based on the replacement cost of the oil at that time, and the soaper gets the inventory profit, which is as it should be.

—♦—

THE NRA is quite obviously being throttled by politics. By most business men, no tears are being shed. When NRA began to operate, the bait for voluntarily cutting hours and raising wages was the implied promise that bad trade practices and vicious price competition would be elminated through trade practice codes. Profits would be better and industry could thus afford to pay the increased labor costs. However, it does not seem to have worked out that way, at least not in most industries. Apparently these industries have gained the privilege of paying higher wages,—nothing else. In spite of the squawks of organized labor that it has been sold out by the NRA, we believe that labor, both organized and unorganized, has been the chief gainer.

Now in Washington we look over the NRA personnel. Of all the outstanding executives who threw themselves into the work in the beginning, men of admitted high calibre, few are left in the NRA. Quietly and unobtrusively, they have been eased out by conditions which are reported to us as intolerable to any free-thinking business executive. Political job holders have been eased in to take their places and party politics is at the wheel. That the effects are decidedly apparent in the operation and prestige of the NRA is not to be denied. The NRA might still be something of great value to American business, but throttled by politics and kept alive merely to supply so many jobs for the politicians, it is better off on the junk pile.

—♦—

MUCH ado is made over the discovery of a "soap taster" in the middle west by a newspaper reporter with a nose for news. This "soap taster" with many years of experience in soap plants "finds his tongue a more accurate index of the quality of his soap than the process of titration ordinarily employed in the laboratory". To the "alert reporter" who made the astounding discovery of the soap taster, we want to point out that the tongue test as a rough indication of free alkali has been in use for a great many years by soap makers. That it could be a more accurate index than a properly conducted chemical determination of alkalinity, is just so much twaddle as any modern soap maker knows. Notwithstanding the apparent uncanny ability of some soap makers to determine the state of the boil by the tongue test, a final dependence upon the test may mean eventual grief for the finished product. In the present day manufacture of soap, quality hinges just as much on chemical accuracy as does the modern machine on mechanical precision. The day of the rule of thumb,—or tongue, has passed. Some of our old-time soap makers who still look upon the chemist as an unnecessary frill in a soap factory, should take this to heart.

—♦—

OF advertising slogans running into the higher percentages, we note with interest that a coal company of Bayonne, N. J., has raised the ante of Ivory Soap by stating that its coal is 99.77 per cent slate free.

MECHANIC'S HAND SOAP

By W. E. WILKINSON

THE old-fashioned name for an abrasive soap was "sand soap," simply for the reason that the abrasive ingredient was sand. Various sand soaps were manufactured in England fifty years ago. The writer remembers one product which was nothing more or less than a ball of sand containing just enough soap and probably silicate of soda to bind it together, plus some coloring and perfuming material. As far back as 1878, C. Roth in the *Seifensieder Zeitung* described abrasive hand soaps which contained as much as 70 per cent of clear sand or quartz mixed with soap paste. And experiments then showed that such a product had no particular disagreeable effect on the hands.

During recent years, a tremendous tonnage of various and sundry abrasive soap products has been manufactured in the United States. Of those which are used for cleansing the hands, there are three types,—the small bars of solid soap containing pumice, silica or some other abrasive, the powdered mixtures of dry soap and abrasive for dispensing machines or for sale in sprinkler-top cans, and the paste hand soap. Judging from the number of brands on the market and the general sale, the mechanic's hand paste seems to be the most popular. In handy one-pound tins, or in larger sizes for general factory and industrial use, it has become almost the universal cleanser for the badly soiled hands of mechanics when the day's work is done.

The reasons for the popularity of the paste form of hand cleanser are several. First it is packed in handy tins, easy to use and to store in locker or soap cabinet. Second, it can contain a higher percentage of abrasive and gets the dirt off quickly and effectively. Third, it is the easiest and cheapest to make. For this latter reason, there have been innumerable brands come on the market, and the total sales efforts in behalf of all the products have been great. This, probably more than anything else, accounts for the heavier sale of hand paste than of other forms of abrasive hand soaps. Simply more people have been making it and spending their time selling it.

The moisture content of hand paste is, of course, much higher than that of a bar or powder, running anywhere from 40 to 70 per cent. The buyer consequently gets much less actual soap for his money. The fact that it is possible to manufacture the paste with a minimum investment in equipment probably accounts for the numerous brands on the market and also for many of the low quality products. It seems that anybody can,—and does —go into the business. Most of the well-known brands are products of fairly high grade, and for this reason,

it is difficult to understand how some of the low grade pastes can sell in competition with them, even at cut prices.

The equipment required for hand paste manufacture as ordinarily used is simple,—a tank for heating the water and a machine for mixing the soap with a 1½-inch pipe outlet at the bottom of the mixer with connections for four ¾-inch nipples to deliver the finished product to the cans. The cans are usually arranged on square iron trays holding two dozen one-pound tins or other sizes as required. Some hand soap "manufacturers" do not even have this simple equipment, but get along with hand mixing. With the elimination of soap moulds presses, wrappers, etc., it can be seen that the cost of equipment is much less than that for the manufacture of cake or bar soaps.

Today, some leading hand soap manufacturers make their product from the oil or fat right through to the finished paste. However, most of the rank and file buy their soap already saponified in the usual form of chips, sometimes white, sometimes amber. These chips are worked into a paste with two or three times as much water and the desired proportion of sand, silica, or pumice is added. Glycerine is also usually added to prevent too rapid drying out and the mass is worked until it is smooth and uniform. The perfume is sometimes a cheap bouquet, but more commonly sassafrassy camphor oil or methyl salicylate. Mirbane is still used in some products, usually the poorest ones. The added touch of a pink or blue color gives the aesthetic touch.

Where an ordinary laundry chip is used as the base for hand paste, it has the drawback of not lathering as well,—sometimes hardly at all,—as a product made from a coconut oil soap base. Because the soap content of the finished product is relatively small anyway, if a lather of expected proportions is desired, a coconut oil soap in part at least is essential. In this case, the coconut oil is saponified first and to the partly cooled soap are added the sand, pumice or silica with water and perfume as required. Usually sodium carbonate forms a part of the charge and sometimes silicate of soda is used. Although hand paste has the physical properties of a soft soap, it is very seldom made with a potash soap base owing to the greater cost.

WHEN the circumstances under which hand pastes are used, are considered, it is readily appreciated that the exact composition required in a high grade toilet soap, for example, is not needed in a hand soap. An excess of alkali beyond the permitted limits or a regular toilet soap is not a great drawback. Of course, a foul-smelling rancid paste will not do, as is proven by experience. Nevertheless, a rough grease-cutting job on grimy hands is the usual function of this type of soap, and if it does that job effectively, it seems to get by. The mere fact that oil of mirbane and other odors as crude have been used by some successful products, seems to be evidence that if the product takes off the grease and grime and leaves the skin behind, other shortcomings may be overlooked. Perhaps this is the reason why silicate of soda and trisodium phosphate are included in some hand soap formulas, while their use is frowned upon as ingredients of any ordinary toilet soap.

Most of the hand pastes on the American market are of the same general type, white to grey pastes, or sometimes colored pink or blue, containing sand of varying degrees of fineness, and sometimes pumice and silica or mixtures of these. The most common perfume seems to be sassafrassy camphor followed by citronella, methyl salicylate, and other low cost odors. Some products are curdy and lumpy, showing separation of the liquid. Usually these are pastes where too much water has been added. Some dry out quickly, shrinking away from the sides of the can and leaving rust stains around the edge. Some contain marble dust, flour, starch, or bentonite as fillers or to aid in giving a smoother product and in retaining a greater proportion of moisture. Some lather well and others hardly at all. Some are even so deficient in soap content that they remove the dirt only after two or more applications of the paste. In all, there are probably over a thousand different brands of hand paste made in this country today of which perhaps nine hundred are poorly and improperly made. Judging from the apparent attempted similarity, most of the smaller makers have at some time or other started to make their own product quite definitely with the idea of duplicating one of the better-known brands.

In very few cases which the writer knows about has there been an attempt to put out something new and original in a hand paste. Even some of the ideas which were in vogue a few years back might be revived with modifications if others are looking to do something else besides imitate the fellow already in business. In mind is a pumice tar soap which gets away from the usual run of hand soaps today. Ordinary crude pine tar oil is mixed with coconut oil and saponified along with cottonseed oil and a small proportion of rosin. To a soap of this type is added an equal weight of half pumice and half silica. The pine tar odor in a hand paste is something different, and considering the way in which hand soaps are used, should be an acceptable departure. It has been a surprise to the writer that with the wide vogue of so-called health soaps with a coal-tar odor in the toilet soap field, that somebody has not put out a "health hand paste" with the same type of odor and with perhaps a disinfectant value designed to prevent the spread of boils and other skin troubles so common in factories where cutting oils, greases, etc. are used.

One of the best sellers among the hand pastes which has come to the attention of the writer was a mixture of soap, soda ash, mineral oil, marble dust, silicate of soda, red oxide color, pumice and water, perfumed with sassafras and citronella. Another paste was made from a soap base of cottonseed and olive oils. Another paste tested showed a silica content of 85 per cent, about 10

(*Turn to Page* 107)

A frank criticism and a few specific suggestions on composition, formulation, and marketing for the manufacturer of

SHAVING SOAPS

By RALPH H. AUCH

IF one were to treat the subject of shaving soap in the order in which shaving preparations came into prominence, it would probably be cake shaving soap, shaving stick, shaving powder, shaving cream, brushless shaving cream and, finally and most recently, liquid shaving soap. Doubtless that order is as good as any, the climax coming with shaving cream and brushless shaving cream, and the anti-climax, as yet a relatively unknown quantity, liquid shaving soap.

Many granddads and some dads persist in the use of the shaving mug or shaving stick, but few young Americans have learned, or having learned, now practice the art. Shaving stick and soap represent 14 per cent as much volume as shaving cream with one sizeable manufacturer. However, a limited survey in retail outlets indicates the general average does not exceed 10 per cent. A very recent survey among 252 geographically scattered men testers, 231 of whom answered the questionnaires, disclosed that there were 21 shaving soap (mug soap) users among them or about 9 per cent. Shaving soap sales are largely represented by those of three large well-known soap makers and since they appear to dominate the market, not much space will be devoted to shaving soap.

Then, too, just as surely as a thin dime represents the top price for petroleum jelly, a thick nickel is about top for the round flat 2-ounce (or the chiseler's deep-die short-change 1¾-ounce) shaving soap these days. There is not much incentive for attempting to break into a gradually diminishing market that is dominated by large manufacturers and carries a five cent unit retail price.

The requirements of a satisfactory shaving soap are quite dissimilar to those of the average toilet soap. The soap must be neutral and non-irritating and produce a heavy, creamy, long-lasting, non-drying lather. It must be soft and workable in the mug or, in the case of the stick, when applied directly to the face, it must be even more so. To have this necessary attribute and to be satisfactorily handled and workable in manufacture in spite of its high titre, necessitates the use of the mixed lyes.

Typical partial analyses of five representative shaving soaps follow:

	No.1 FFA	*No. 2 NaOH*	*No. 3 FFA*	*No. 4 FFA*	*No. 5 NaOH*
Neutrality	.06%	0.02%	0.45%	2.60%	0.01%
Alcohol Insoluble	1.07%	1.76%	0.47%	17.57%	0.97%
Volatile at 105°C	8.68%	17.45%	5.36%	8.58%	6.96%
Titre	44.5°C.	40.7°C.	46.0°C.	45.8°C.	43.9°C.
Color	White	Cream	White	Yellow	White

In practical shaving tests, number three was outstanding. It is significant that the unsaponifiable ran only .15 per cent, indicating that excellent soap may be made without resort to lanolin, cetyl alcohol, bayberry wax, white petrolatum or other trick ingredients or emollients so frequently used. Incidentally, number four, a product made for the private label trade, was the poorest in practical tests. Every one was made with a mixture of soda and potash lye. The ratio varied between 2 soda to 1 potash and 3 soda to 1 potash.

To lather freely, a small percentage of good coconut or palm kernel oil with the tallow is required. To obtain the very necessary high titre, resort must be made to the use of stearic acid. Directly saponifying the stearic acid with the potash lye is a convenient method to introduce both of these necessary ingredients into the batch by crutching. In fact, one manufacturer is known to produce satisfactory shaving soap by amalgamating one part of his regularly manufactured shaving cream with two parts of well dried toilet base chip, adding the perfume, zinc oxide and lanolin and then milling, plodding and pressing.

Shaving powder, except for barbers use, died without mourners about the time that the prank became popular around fraternity houses of secretly replacing the shav-

The standard "man's combination" of cream, powder, and lotion finds a ready market among the male population.

ing powder in the nice shiny container with plaster of paris. The shaver suffered a shock when he started to shave, even if he avoided ruining his shaving brush as was frequently the case.

Shaving Creams

THERE are between 85 and 100 trade marked shaving creams listed in the latest issue of the D.C. Red Book. That no one manufacturer dominates the market is evinced by the fact that the geographically scattered testing group of 231 named 49 different brands in answer to the question, "Name your favorite brand." In this group, two well-known brands were each mentioned as choice by 26 then next came 17, 16, 15, 13, 10, 5, 4, with five different makers having three testers each name their brand. In addition to those brands in active demand that are sold nationally, are some that enjoy, at best, only sectional demand. Then there are a few, bearing brand names one associates with cosmetics and specialties sold to the fair sex and the brand names of ethical pharmaceutical manufacturers, both of which are usually misfits.

Analysis of several confirms the fact that they are misfits and poorly compounded. For example, one contains 12 per cent free fatty acids and has a titre of only 46. This manufacturer's package insert stresses the obvious fact that free lye is released when water is added to soap and that lye is not good for the skin,—nor comfortable. His chemists, so he states, required four years to find a way to reduce the amount of lye liberated by hydrolysis "to an inconsiderable minimum." Well, the high free fatty acid figure of 12.37 per cent undoubtedly does it admirably. A few minutes, a knowledge of dissociation constants and a few pH determinations would have proven it, and probably did, the four years statement to the contrary notwithstanding.

Desirable characteristics of a shaving cream include—

1. A gram or less should give an abundant lather with little effort.
2. The lather should be a small bubble one and not watery.
3. The lather should remain moist throughout the shave.
4. The lather should soften the hairs and act as a lubricant to the razor.
5. On application and subsequent rub-in there should be no smarting or astringent action on the skin.
6. It should not corrode the tube or the tube opening.

Analysis of a number of well-known brands indicates quite close agreement on the salient points. The volatile matter on six brands ran 32.5; 29.8; 33.5; 33.3; 32.1 and 32.3 per cent respectively, or conversely the active ingredients ran from 70.2 to 66.5 per cent. The titre runs considerably higher than the average shaving soap at 48.3°; 50.6°; 50.0°; 50.3°; 46.7° and 52.1° C. for a half dozen sales leaders.

All also seem agreed that an excess of stearic acid is good practice with 3.70; 3.81; 2.53; 3.02; 4.07; 5.23 and 8.88 per cent respectively. However, they cannot be said to agree on the amount.

Composition of Creams

SHAVING cream is an emulsion of high titre soaps containing 40 to 50 per cent of fatty acid of which 2.5 to 8.0 per cent is excess or unsaponified, saponified with a mixture of potash and soda lyes in the ratio of from 11 to 1 to 4 to 1 with from 5 to 18 per cent of C. P. glycerin and suitable perfume added. Coconut oil and stearic acid, both of good quality, are the only necessary fatty ingredients although palm kernel oil, olive oil, lard oil, sesame oil and tallow find limited application.

The formula that follows is at once workable or may be used as a basis for further experimental work:

Shaving Cream No. 1

	Per Cent
Coconut Oil (Cochin)	10.0
Stearic Acid XXX	35.0
Caustic Potash 100%	6.8
Caustic Soda 100%	1.5
Glycerin	18.0
Perfume	.50 to .75
Water	28.2
To Make	100.0

Dissolve the potash and soda in about two-thirds the cold water or dilute an equivalent amount of any stock concentration or Baume of the potash and soda to the same strength. Heat the glycerin and coconut oil to 165 or 170 degrees F. Run in the caustic solution in a thin stream while agitating, and when saponification is complete and while the mass is still hot, add the melted stearic acid, then the balance of the water continuing the agitation a while longer. It is imperative that the

coconut oil be saponified before the stearic acid is added so that the unsaponified material present in the finished cream is stearic and not coconut oil.

The whole operation should require only 15 to 20 minutes. Cover the container, then agitate for a minute or two every day for ten days to two weeks, adding the perfume during agitation the first day. By this mixing and ageing, the cream "cures" and becomes smooth and homogeneous and the characteristic sheen develops. A change can or pony mixer is the most suitable container as change cans in any required number are available and interchangeable, thus the equipment is not tied up and is available for other purposes.

For the manufacturer who has white cold soap scrap available, the following formula is quite convenient. The scrap is generally a nuisance anyway and may serve as the source of both the soda and the coconut oil. Such perfume as it contains will be lost in the batch or covered by the perfume subsequently added. The formula assumes a 25 per cent moisture content in the scrap so if the scrap runs higher, a correspondingly larger amount must be used, while if lower, a smaller quantity is required, making up the difference with water:

Cream Based on Cold Soap Scrap

	Per Cent
White Cold Soap Scrap	12.0
Water (to dissolve above)	17.0
Caustic Potash (100%)	7.0
Water (to dissolve the lye)	12.0
Stearic Acid XXX	37.0
Glycerin C. P.	15.0
Perfume	q. s.
To Make	100.0

Since the scrap usually contains free oil and free fatty acid, it is imperative that the lye be added to the water solution of soap before adding the stearic acid, thus the desired free fatty acid in the finished product is colorless, inodorous stearic acid rather than that of coconut oil which is susceptible to change and deterioration. The procedure is quite like that followed in the formula No. 1 above.

The cream must age or "cure" for uniform consistency and for the sheen, that users have come to expect, to develop. If properly made, both formulas will develop a beautiful sheen. In summer or in very warm climates it is well to put the shaving cream in cold storage for a few days to "cure." Where refrigeration is not available in the plant, the expense of hauling to and from commercial cold storage is entirely warranted.

If in the formula as finally developed and decided upon, a suitable sheen does not develop, the incorporation of a fraction of 1 per cent of oleic acid will usually be found to accomplish this. The oleic acid should be nearly odorless and colorless, in fact, the finest procurable.

Pack Brushless Creams in Jars

BEFORE going into detail on formulation of latherless shaving creams a few generalities will be drawn. One-half to one and a quarter grams of shaving cream usually suffices while three to six grams or more of the latherless type are required for a satisfactory shave. With the same concentration of perfume, say ½ to ¾ per cent, about five times as much finds its way to the face with a brushless cream. Therefore, it must be chosen with unusual care so that it does not irritate. This means that terpineol, hydroxycitronellol, methyl salicylate and other old offenders on the score of irritation must be avoided or sparingly used. One is freer to use ingenuity and compounding skill resulting in the unusual perfume, however, as the choice is not as circumscribed as with shaving cream. In fact, even a fruity scented product has been quite successful marketwise.

Both tubes and jars are being used as containers for this type of cream. The large size tube will yield an average of only 17 to 30 shaves. While this writer has for years fathered the idea in cosmetics that size should be based not on cost, but on "how soon dare you bring them back to lay cash on the line for the next package",

(*Turn to Page 67*)

The author recommends the glass jar for brushless shaving creams in preference to the collapsible tube because even the large tube does not hold enough cream.

Patents for Soap Articles

By JOSEPH ROSSMAN, Ph.D.

THIS is the fourth and final article of a series reviewing United States patents covering the physical form of soap articles by Dr. Rossman, chemist, member of the bar, and patent examiner in the United States Patent Office.

VARIOUS forms of soap have been made for efficient use in shaving cups so that they are used up uniformly without undue waste and also permit the water to be completely drained from the cup. The following patents are illustrative. Pepino, 825,979 July 17, 1906. A cake of shaving-soap formed with its base as its greatest diameter and circular in form, and constantly diminishing in diameter from its base to its top, and having a recess in its base approximating in form that of the exterior of the cake.

Ittner, 872,819 Dec. 3, 1907. A cake of soap, the base of which presents the greatest diameter of the cake, the diameter and the contour of the base adapting the base for closely conforming to the angle at the bottom and sides of a usual shaving mug, the cake diminishing in cross section upwardly from a narrow vertical margin which bounds the base, the apex of the cake being formed by a small plane surface parallel to the plane of the base. Benitz, 906,371 Dec. 8, 1908. A shaving-soap cake, having a circular side which is of full of maximum height, the top of the cage being inclined thence downward toward the opposite side.

Shaving sticks as customarily made consist merely of a cylindrical cake of coap. In use, this cake has an end face moistened and rubbed over the face to leave a layer of soap thereon as a preliminary to the production of a lather for shaving. Commercial soaps contain a considerable percentage of water and in a stick of this kind used in this way, the soap is more apt to dry out in time than is the ordinary cake. As the qualities of commercial soaps and their composition are nicely balanced to the intended uses, this drying out of shaving soap makes it less well adapted to the production of the creamy lather desired and a stick which has been altered by exposure does not leave the right amount and quality of soap on the face when rubbed thereover. Furthermore, for hygienic reasons it is not desirable to bring the same surface of soap into repeated contact with the face, or with different faces.

Patent 979,381 Dec. 20, 1910 to A. F. Conery provides a stick built up of a number of thin layers, disk-like in shape, with each such layer of such dimensions that it will suffice for an ordinary using, — in using the article as a shaving stick, of such dimensions that the amount of soap will suffice for a single shave. These layers or disks are assembled together with separators of paraffined paper between them to form a unitary structure of sufficient strength. It takes but a little soap for a single shave and this amount in this invention may be provided by a quite thin wafer since the backing given by the separator will allow such a thin wafer to be applied. To add to the mechanical strength of the assemblage and to aid in preventing drying this assemblage of soap wafers with a supporting and shielding casing or wrapping preferably made in separable segments so that one wafer after another can be exposed. With this is also combined a special sealing coating of paraffin as a further aid against evaporation of the contained water of the soap.

Patent 1,320,855 Nov. 4, 1919 to W. J. Henderson describes a shaving stick which has an outer hollow shell of soap and a solid core of oleaginous, emollient and saponaceous compound of sufficient consistency to remain in its position within the rigid hollow shell. The core is a gelatinous compound of two (2) parts of pure olive oil, three (3) parts of soap shavings, two (2) parts of petroleum jelly and three (3) parts of sugar, which has an emollient effect, but not being oleaginous tends to solidify the compound, all intimately mixed together.

According to patent 1,325,361 Dec. 16, 1919 to Harshberger a shaving stick is coated with paraffin. The body of the soap always being dry there is no waste and due to the protection afforded by the perfectly sanitary paraffin coating there is no possibility of infectous substances, such as may result from corroded metal, beng conveyed to the soap. The paraffin may be applied to the soap in any suitable manner, as by dipping or immersing the cakes of soap in a bath of fluid material whereby an even coating of the material will adhere to the soap.

Sticks of shaving soap are usually wrapped in tin foil which is often annoying in that it has to be scraped off with a tool or with one's thumb-nail as the stick is consumed and frequently scratches the face of the user of the soap, when not sufficiently removed from the stick. This disadvantage is remedied by the invention of patent 1,380,388 June 7, 1921 to J. Kaufman which provides an elastic casing of very thin rubber, which may be rolled down the stick as it becomes consumed, thus in a most convenient manner exposing the end of the stick of soap, and omitting the tin foil and its disadvantages. It is also commonly well-known that some beards are stiff and difficult to soften preparatory to the shaving

J. C. SCHEUFLER & J. J. OSBURN.
FABRIC DISK WITH TOILET SOAP THEREON.
APPLICATION FILED JAN. 17, 1916.

1,200,883. Patented Oct. 10, 1916.

Fig. 1.

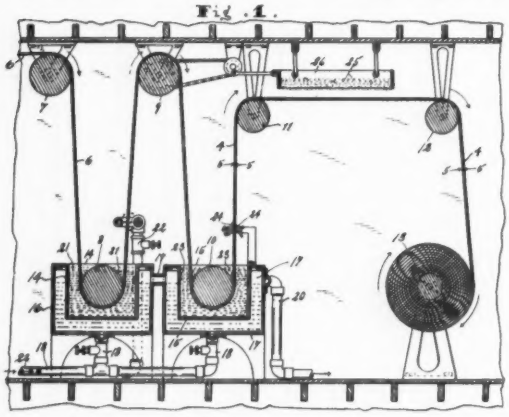
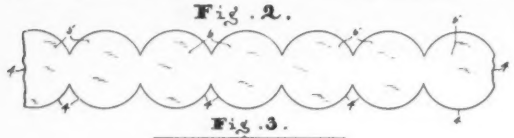


Fig. 2.



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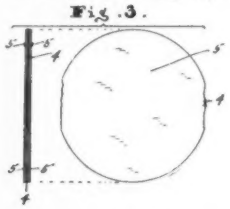


operation. This is remedied by providing the core of cocoa butter extending throughout the stick of shaving soap, the cocoa butter serving to combine with the soap in softening the beard and rendering the action of the razor smooth and painless and without injury to the skin of the person shaving, leaving the skin, after shaving in a soft velvety state and lacking wholly in inflammation or unpleasant sensation. The oily nature of the cocoa butter combines with the lather of the soap to produce a lather of exceptional efficiency.

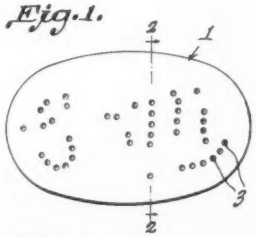
In shaving it is usual to pass the end of the shaving stick over the skin, either the stick or the skin being moistened to deposit soap from the stick on to the skin. This soap is then converted into lather by means of a brush in the usual manner. In carrying out this operation, it is found that too much soap is sometimes wiped on to the skin or that the soap is liable to adhere to the skin in particles which are not completely converted into lather. According to patent 1,681,355 Aug. 21, 1928 to H. Lowenfeld a shaving stick is perforated or channeled throughout its length so as continuously to expose an operative face wherein the width of soap left between adjacent perforations or channels, or between the periphery of the stick and an adjacent perforation, is small relatively to the dimensions of the face and wherein the perforations or channels are left unfilled by any material.

Soap has been supplied in small quantities such as tablets designed as samples or for one-time use. In accordance with patent 768,731 Aug. 30, 1904 to R. Brown, the soap, in leaf form of circular cross-section, is pressed upon a backing-piece, which may be of cardboard. This backing-piece may have printed upon it the particulars of the sample—as, for example, the name and address of the manufacturer, directions for use, etc.—or may bear an advertisement of the particular soap or material of the sample. This backing may be saturated with oil. A cover of oiled paper is pressed over the leaf to protect it.

Patent 1,200,883 Oct. 10, 1916 to J. C. Scheufler makes individual soap cakes consisting of a disk-form core of paper of the size and shape of the palms of the hands and coated with paraffin wax to stiffen and toughen it and render it waterproof, and then coated with toilet soap in sufficient quantity to meet the requirements of individual use for one occasion, the waxed core of paper being sufficiently tough and stiff to prevent it from

Oct. 20, 1931. C. A. CRARY ET AL 1,828,361
CAKE OF SOAP
Filed Oct. 18, 1928

Fig. 1.



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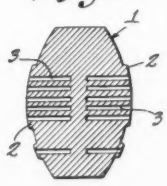

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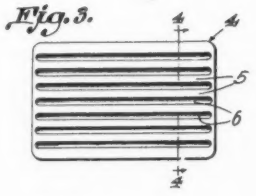


Fig. 4.

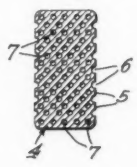


Fig. 5.

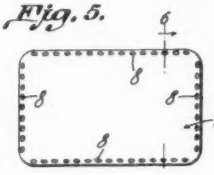
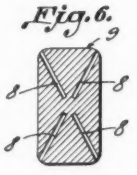


Fig. 6.



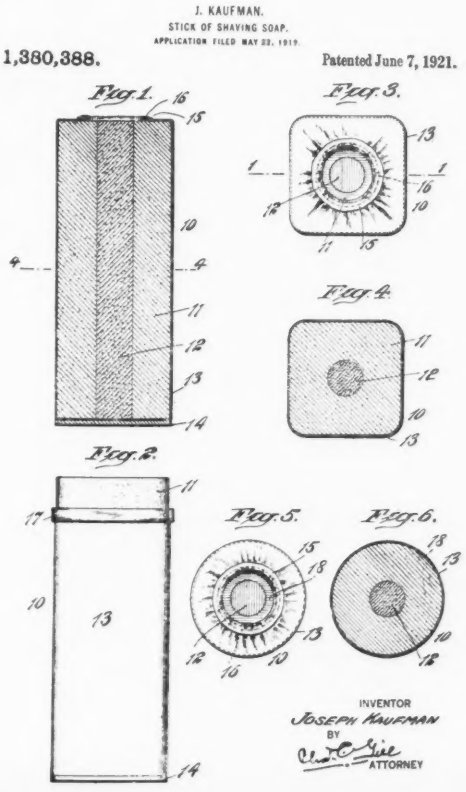
breaking or rolling up in use, and it being sufficiently pliable to make good suction contact with the hands so that the toilet soap can be rubbed off of the waxed paper and the latter then thrown away.

For large scale production a web of paper is passed around the rollers 7, 8, 9, 10, 11 and 12, and it is wound on the roller 13. The rollers 8 and 10 are arranged in vats 14 and 15 which are placed in the heating tanks 16 and 17. The latter may be heated by any suitable means such as by steam supplied through the piping 18 which is connected to the tanks 16 and 17. The upper interior portions of the tank 16 and 17 may be in communication through the pipe 19, and an exhaust pipe 20 may be in communication with the upper interior portion of the tank 17. In passing under the roller 8 the strip of paper passes through a bath 21 of

heated paraffin wax in the vat 14 which stiffens the paper and renders it tough and moisture proof. After leaving the vat 14 the strip 6 is cooled to harden the wax by air blown through the piping 22. In passing under the roller 10 the waxed strip passes through a mass 23 of heated toilet soap which adheres to the wax strip. After leaving the vat 15 the waxed strip with the toilet-soap thereon passes between the adjustable spaced blades 24 which scrape off the excess toilet-soap and insures even and uniform layers of the toilet-soap on the opposite sides of the waxed strip. To prevent any sticking together of the layers of toilet-soap when the strip is wound on the roller 13, powdered talc 25 or other suitable material is applied to the toilet-soap on one side of the strip by means of the mechanically operated sieve 26.

The following patents describe other methods in preparing soap tablets: Goetzke 1,225,323 May 8, 1917. A circular centrally concaved pasteboard disk having an inwardly raised and beveled edge seated upon a corresponding pasteboard disk both of which are coated on their outer surfaces with a thin coating of soap and a film of soap closing the edges and holding the two disks together. When the soap coating is washed off, the disks immediately disengage themselves, thereby avoiding the possibility of their being used again.

Hughes 766,254 Aug. 2, 1904. A soap tablet having a loose, minutely-divided interior of soap powder and a shell capable of disintegration in the presence of water. Jones 1,268,126. June 4, 1918. An individual tablet of soap adapted to be used for a single washing and having a central chamber surrounded by a wall of solid soap sufficiently thin to permit it to be easily crushed by the hands of the user, and a liquid having high cleansing qualities, inclosed in the chamber and adapted to mingle with the solid soap when the tablet is crushed and form in connection therewith a cleansing solution.



Chandler 1,386,767 Aug. 9, 1921. A cleansing tablet comprising a core of paste soap and a relatively thin frangible layer of comparatively hard soap consisting of an endless imperforate band entirely surrounding the core except at the opposite ends thereof, and a waterproof covering surrounding the tablet except at the opposite ends thereof.

Atkinson 1,556,576 Oct. 13, 1925. A porous soap tablet of a size for individual single use, permeated throughout with a dry moisture absorbent material in comminuted form such as sawdust or bran, the particles of the material being held together by the soap in a manner to allow water to promptly permeate the entire mass, the material when wet being adapted to instantly expand and disintegrate the tablet, the soap and sawdust being in the approximate relative proportions, by volume, of one part and four parts, respectively.

The following patents illustrate various other ideas which have been suggested for a bar of soap: Kirk 549,371 Nov. 5, 1895. A cake of laundry soap having a temporary wrapper completely covering it, the wrapper being loosely folded around the cake and being provided with perforations adapted to give the air free access to the cake and thus prevent discoloration of the wrapper during sweating.

Weidner 1,580,576. Apr. 13, 1926. A perfumed soap cake with channels extending from one side to the other of the soap cake, the channels being filled with paste-like mass, the paste-like mass being chemically indifferent towards perfumes, and the perfume for the soap being incorporated in the indifferent mass.

Eggan 1,619,105 Mar. 1, 1927. Jellied soft soap contained in a permanently closed holder coated throughout with paraffin wax to normally maintain the holder impervious. The coating is liquefiable on the application of heat and the holder is formed of textile fabric of sufficient permeability to act as a feeder for the jellied soft soap when the coating has become liquefied.

DURING the last three or four years some interesting patents have been issued for various types of soap articles. Patent No. 1,813,047, July 7, 1931, to A. Gibson shows a piece of Turkish toweling having a small cake of soap affixed in the center. This toweling is used to soften and moisten the skin of the face while applying shaving lather to it and is intended to be used in barber shops.

Patent No. 1,827,549, Oct. 13, 1931, to E. Villain is

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The Legislative Situation

IN ADDITION to opposing strenuously the classification of toilet soap as a cosmetic under the Copeland Bill, on which hearings were recently held, and under the regulations of the NRA which places toilet soap under the retail drug code, the Association of American Soap and Glycerine Producers is actively engaged in opposing the course of state legislation which may affect soap, glycerine, or cleanser manufacturers. The Association is also fighting the so-called Black Thirty-Hour Bill, R. C. Edlund, manager of the Association having recently acted as spokesman for the consumer goods industries against this measure. The general legislative situation to date as discussed by Mr. Edlund in a recent bulletin to members of the Association, is outlined by him in part as follows:

"New federal legislation regulating drugs, foods, and cosmetics, appears likely to become law during this Congress. Cosmetics (and even drugs) are so defined in these measures as to cover soaps that are used on the body. Contrary to expectation, the Copeland bill, which may perhaps be regarded as the principal one of the three measures before Congress, is not to be allowed to be rushed through without public hearing. There was too much opposition from various angles.

The effort that we are making is to secure definitions that will omit soaps from the application of the bill. Soap is not a drug, nor a food, nor a cosmetic; but unfortunately some of the powers at Washington nevertheless want soaps to be dragged into the bill and governed by its many provisions as to labelling, net weight, advertising, etc.

Our attorneys and our office here are at work on this matter, and the Directors of the Association have also appointed a special committee consisting of representatives of the Procter & Gamble Company, Colgate-Palmolive-Peet Company, and Lever Bros. Company, to give guidance and assistance. It is anticipated that we will not find it easy to secure the elimination of soaps, so that we may need later to call upon the industry widely to communicate with their Congressmen. It is not necessary, or advisable, to do so at the present time unless you happen to know some of them very well indeed and give such men your views in a personal and effective way.

The Association's Tax Committee, of which Mr. A. Roy Robson of Fels & Company is chairman, together with the Association's Directors, have given much thought to the special tax situations that bear hard on the soap industry at the present time. Their conclusion is that for the soap industry as a whole, the processing taxes on raw materials so far outweigh in importance all other tax measures that first and sole attention should be given thereto. Much as we would all like to be rid of the 5 per cent excise tax on toilet soaps, and much as we would also like to move toward raising the import barriers against soap from foreign countries, we do not think it wise to take any step in these directions, until every resource has first been tried toward repealing or amending the tax on imported oils. The latter is obviously the big thing to accomplish if possible, and it seems unwise to take any steps on other matters that might injure our chances of success with the main objective.

What can be accomplished with reference to the processing taxes on imported oils depends in the first instance on the report of the Congressional Committee that has recently been to the Philippine Islands. Nobody is closer to this matter, or is watching it with more care, than is the Bureau of Raw Materials for the American Vegetable Oils and Fats Industries, and it is through that Bureau and under its guidance and leadership that each step will be taken. For the present, it seems clear that before anything else we must know what will be officially recommended by the Congressional Committee with relation to imports from the Philippines. That is the key to the whole problem, and on that we must, for the time being, wait with such patience as we can command.

State Legislatures

In Maine, hearings are being held today on bills to repeal last year's objectionable cosmetics regulation bill, and on a new one (Legislative Document 374) which is still objectionable from our point of view, because it will specifically bring soaps under registration and regulations intended for cosmetics. Local representation has been arranged, to oppose any classification of soaps with cosmetics, and to take this position not only at today's hearings but clear through the session of the Maine legislature under whatever guise this misclassification comes up.

In Missouri, hearings are held tomorrow on the most drastic cosmetics regulation bill (House Bill 348) yet proposed anywhere. It applies to soaps specifically. The bill would require licenses to manufacture or sell; would open every plant whether in or out of the state to detailed and complete state inspection, even to books and records, at the plant's expense; would prevent any advertising where claims are not approved in advance by the state; would require a tax stamp and the state's license number to be attached to each cake or package and proposes (in 25 printed pages) a large number of other highly objectionable provisions. I am informed that the bill has serious chance of passing. I have, however, wired 19 soap manufacturers, large and small, who have plants in Missouri and am hopeful that they will join actively with the many other industries affected in opposing the bill vigorously and effectively.

In North Dakota, Senate Bill 136, in amending the state food and drugs act, adds cosmetics under a general definition that would probably include soap. It would require name and address on wrappers and a statement of contents by weight, measure or count, and has other provisions that are burdensome and unnecessary so far as soaps are concerned. Inquiry is being made by us to find whether this bill is being taken seriously, and if so arrangements will be made through local representation to secure, if possible, the specific exemption of soap from its terms.

In California, House Bill 188 would regulate against radio broadcasting of false or misleading claims about cosmetics, which again is so broadly defined as probably to include soap. Senate Bill 929 proposes a 10 per cent retail sales tax on cosmetics, exclusive of dentifrices and talcums. Since cosmetics are not defined, it is not clear whether the tax would be construed to apply to soaps. If these bills need attention, and if our California members feel they need help from any of the rest of us, they can doubtless be counted on to let us know.

In Connecticut, House Bill 851, proposes that retail drug sales, including cosmetics and soaps, shall be governed by certain specified provisions that are now found in the NRA Retail Drug Code, including the provision that no sales shall be at less than the manufacturer's wholesale list price in dozens or where there is no wholesale price by the dozen, then at not less than the "manu-

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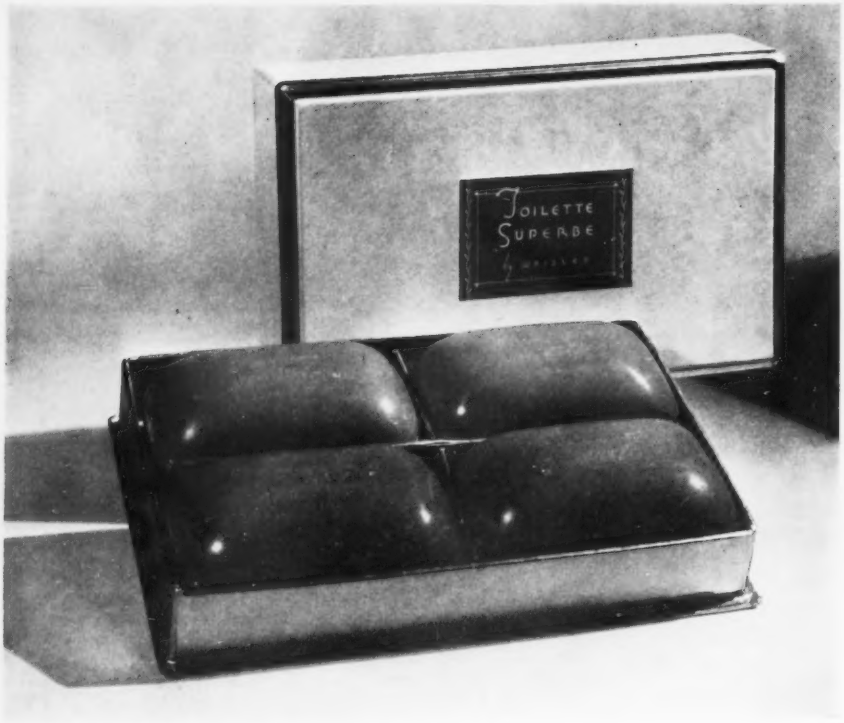
New Pr



One of the newest additions to the Wrisley line of fine toilet soaps,—Toilette Superbe. Made in six odors and colors. Pine odor in green shown here. Four four-ounce bars to the box listed to retail for fifty cents. Box in cream and gold. A luxury item beautifully packaged. Made by Allen B. Wrisley Company of Chicago

An auto cleaning and polishing combination recently put on the market by the Puritan Soap Company of Rochester, N. Y. P. S. Pre-Wax Cleaner and P. S. Auto Wax. Containers in red, yellow and black. These items are listed to retail for fifty cents each.

A new product by the manufacturer of Old English Floor Wax. The A. S. Boyle Company of Cincinnati presents Old English Upholstery Cleaner, a sudsing dry cleaning product for use on furniture, drapes, woolens, auto upholstery, etc. Applied with sponge; wipe off with dry cloth.

w Products and Packages

A new package for Blue and White Soap Chips which is reported to have boosted sales sharply. A white, blue and yellow combination. The chips are sold by the Red and White Stores of Chicago, which organization has headquarters in the Merchandise Mart.

Two products which have been attracting some attention of late in Canada, a general kitchen detergent and a powdered pine bath soap in unique triangular packages. Made by Taylor Dutton Products, Ltd. of Toronto. About to be introduced in U. S.

Laco Castile Shampoo appears in a striking new package. The liquid form of the Laco Shampoo is also a straight olive oil product. Retails at fifty cents. Manufactured by Lockwood Brackett Company of Boston.

PROPOSE SHAVE SOAP CODE CHANGE

A proposal to amend both the soap industry code and the cosmetic code to clarify the classification of shaving soaps, shaving creams, shampoos and toilet soaps as packaged by the manufacturer for the retail trade, will be placed before the NRA jointly by the code authorities of the two industries. Any views which vary from the proposal as outlined in the following paragraphs should be expressed to Roscoe C. Edlund, executive secretary of the Code Authority of the Soap and Glycerine Manufacturing Industry before March 22. At that time, if the preponderance of sentiment favors the proposed amendment, it will be placed formally before the NRA.

The proposal upon which the code authorities of the two industries have agreed, as outlined by Mr. Edlund, is as follows:

(1) To place all United States manufacturers of toilet soaps, shaving soaps, and shaving powder under the Soap and Glycerine Code. Up to this time there has been some confusion due to the fact that the words "toilet soaps" and the words "shaving soaps" appear in the definitions of the Cosmetics Code. While these definitions in the Cosmetics Code were originally inserted for the purpose of giving that Code jurisdiction over *importers* of these products in their final packaged form, and also over *owners of private brand names* who themselves did no manufacturing, nevertheless, some firms who did some part of their manufacturing such as milling or wrapping and packaging in this country, have heretofore considered themselves under the Cosmetics Code rather than under the Soap and Glycerine Code. The first effect of the proposed amendments will be to bring all who do *any* manufacturing operations or packaging operations, of these products in this country, under the Soap and Glycerine Code, and take them out from under the Cosmetics Code.

(2) The second effect of the proposed amendments will be to transfer shaving *creams*, whether made with soap base or not, from the present jurisdiction of the Soap and Glycerine Code to the Cosmetics Code. The result, then, will be that all shaving creams, whether lathering or non-lathering, will all come under the Cosmetics Code. Shaving *soaps* and *powders*, as stated above, will remain under the Soap and Glycerine Code, and none of them will be under the Cosmetics Code.

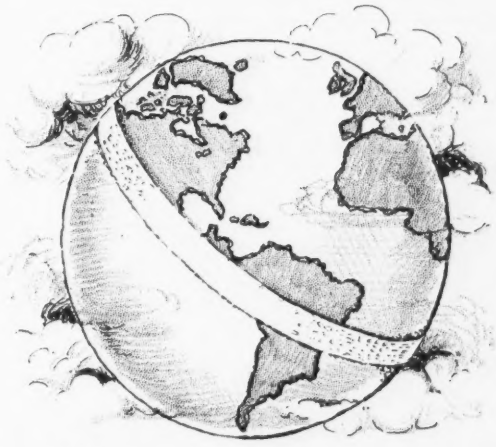
(3) The third effect of the proposed amendments will be to take out from under the Soap and Glycerine Code, shampoos packaged by the manufacturer in the package in which the retail trade sells them to the general consumer public, and to place all this type of product under the Cosmetics Code. There will still remain under the Soap and Glycerine Code all shampoos sold in bulk, including those sold to the barber and beauty supply trade (unless, of course, these latter are packaged by the manufacturer for re-sale to the general consuming public). All other manufacture of liquid soaps remains under the Soap and Glycerine Code and is not disturbed in any way by the proposed amendments.

The request to our Code Authority to make the necessary change in our Code came jointly from the Code Authority of the perfume, cosmetics and other toilet preparations industry, and from the NRA. Essentially, the proposal is one to clarify a situation which has long been confusing. The essential basis of the clarification, as indicated above, is the transfer of shaving creams (but not shaving soaps or shaving powder) and finally-packaged shampoos (but no bulk shampoos) from the Soap to the Cosmetics Code, and conversely, clarification that *all* United States manufacturing of toilet soaps belongs under the Soap Code, and none of it under the Cosmetics Code.

After much consideration, it is the unanimous opinion of our Code Authority that this change ought to be made. We do not think that we should refuse the joint request of the Cosmetics Code Authority and the NRA. We think, also, that there is justification for the thought that shaving creams and finally-packaged shampoos belong under the Cosmetics Code. We think that there is great advantage to our industry in having all the manufacturing of toilet soaps clearly under our Code and of making this clear differentiation that a *toilet soap is not a cosmetic*. This latter point is of extreme importance when you consider the many proposals that are now being made for federal and state regulation and taxation of cosmetics wherein it becomes vitally important from the point of view of the toilet soap manufacturer, that nobody and nowhere shall soaps be considered as a cosmetic and therefore subject to an immense amount of burdensome regulation and taxation which is coming, sure as fate, for the cosmetics industry and which we who make a household necessity like toilet soaps, should do everything possible to avoid not only in our own interest but in the interest of our distributors and of the public.

Without going into the detailed language of the amendment to the Cosmetics Code—though that is available to anyone who may wish it—I do give you the following language of the proposed amendment to the Soap and Glycerine Code. The proposed amendment to our Code consists simply of a change in Article II—Definitions, Section 1, wherein, after the words "The term 'Soap and Glycerine Manufacturing Industry' as used herein includes the manufacturing in Continental United States of household, industrial, and toilet soaps and soap products," there will be inserted the following: *"except shaving creams with or without soap base and shampoos packaged for retail sale."*

DO YOU KNOW —



THAT IF ALL THE SOAP USED ANNUALLY IN THE UNITED STATES WERE IN CAKES, THERE WOULD BE ENOUGH TO PAVE A HIGHWAY TEN FEET WIDE AROUND THE WORLD?

—from *Monsanto Current Events.*

SOAP NOT YET UNDER DRUG CODE

The transfer of toilet soaps to the jurisdiction of the retail drug code by the NRA, which was supposed to have become effective on March 13, was postponed for further consideration until April 5 by an order of the NRA issued on March 12. Soap manufacturers have been opposing strenuously the transfer to the drug code. Thus, retail pricing of soaps remains for the time being under the jurisdiction of the grocery code which forbids sales below invoice cost plus six per cent. The loss limitation provision of the drug code, which may eventually be reinstated in application to sale of soaps, would prohibit sales below manufacturers' wholesale list price per dozen.

PAY RATE FOR SOAP POWDER WORKER

A bin operator in a soap powder plant must be paid not less than the minimum hourly wage for general labor, according to a recent interpretation of the Soap and Glycerine Code by the Code Authority which has been approved by the NRA. The question and interpretation follow:

FACTS: An employee called a bin operator stands beside a conveyor belt and as soap powder moves to him on the belt, he drops a plow or scraper across the belt, which deflects the powder into one of the four hoppers or bins, which in turn feed the filling machines on the floor below. He is required to keep the powder in such agitation with a scoop as to make it run freely to the four outlets. He also keeps the bins or hoppers from clogging. He is constantly in motion if he devotes himself to his job properly.

QUESTION: May the employee described above be paid minimum wage provided by Article IV, A, 2, of the Code of Fair Competition for the Soap and Glycerine Manufacturing Industry, on the theory that he is engaged in the light task of wrapping, packaging and filling?

ANSWER: No, the employee whose duties are described is not engaged in the light task of wrapping, packaging and filling and, therefore, must be paid not less than 40c an hour, or in the southern states not less than 35c an hour.

Other recently approved code interpretations follow:

Facts: Article III-B of the Code provides that if any employee on an hourly rate of pay works in excess of eight hours in any 24-hour period, the wage paid for the excess hours must be not less than one and one-third the regular hourly rate.

Question: What is the meaning of the phrase "in any 24-hour period"?

Answer: "In any 24-hour period" means *any* period of 24 hours beginning with the time at which an employee starts working. It does not mean a calendar day of 24 hours or any other arbitrary 24-hour day fixed by an employer. Regardless of the time an employee starts working, if in the succeeding 24 hours he works in excess of eight hours, he must then be paid time and one-third for the excess hours.

Facts: We employ a number of persons to go from house to house to demonstrate the use of certain of our soap products. These demonstrators are usually persons who are hired in a locality by a crew manager who spends a short time instructing them in the method of demonstrating our product. Thereafter, he meets them at a certain point each morning, gives them their routings for the day and in the late afternoons meets them again and pays them for their services. These demonstrators are expected to take orders for our products but are not required to produce any amount of sales volume in order to earn their pay. The matter of taking orders is incidental to the demonstration.

Question: What are the maximum hours that demonstrators may work and the minimum wages which must be paid to them? Are they outside salesman and, therefore not subject to the maximum hour provisions of the Code? Do they come within any of the classifications which exempt them from the minimum rate of 40 cents an hour, or in southern states 35 cents an hour?

Answer: A person who is employed as a demonstrator is not an outside salesman within the meaning of the Code, and may work not to exceed an average of 40 hours per week in any six months' period. A demonstrator does not fall under any of the special classifications as far as minimum pay is concerned, and he (or she) therefore must be paid not less than 40c an hour, or in southern states not less than 35c an hour. If a demonstrator works more than eight hours in any 24-hour period or in excess of forty hours in any calendar week, he must be paid for the excess hours not less than one and one-third the regular hourly rate. The working day of a demonstrator must be computed on the basis of the entire time he is under the direction or control of the employer or the employer's representative.

E. A. RAY PROMOTED BY IOWA SOAP

E. A. Ray was promoted to the office of executive vice-president of Iowa Soap Co. at the recent annual meeting in Burlington, Iowa. Mr. Ray has been plant superintendent for the past seven years and prior to that time occupied the same position with Potter Drug & Chemical Corp., Malden, Mass. In his new capacity he will be in charge of purchase of all raw materials. He will be succeeded as plant superintendent by John Hodson, who has been chief engineer. Homer D. Banta was re-elected president of the company. He reported a satisfactory year's business, with good prospects for an increase this year, as the new plant at Camden, N. J., is now in full operation. Other officers include F. Albert Kline and Leo Golden, vice-presidents, E. O. Matsch, secretary and treasurer. Milton Blaul and C. E. Sawyer, serve on the board with the above officers.

The annual meeting of the Oil Trades Association of New York was held in the Waldorf-Astoria Hotel, March 12. Officers were elected as follows: president, Rudolf G. Sonneborn, L. Sonneborn Sons, Inc.; vice-president, Charles V. Bacon; secretary, Joseph C. Smith, Smith-Weihman Co.; treasurer, Philip C. Meon, Borne Scrymser Co.; and directors, the above and Joseph B. Cleaver, George E. Getchell, John F. Renick, Lawrence A. Ryan, J. W. Saybolt, George Suraud, Homer F. Wilhelm, and John C. Wolke.

Liquid soaps and shampoos containing alcohol when imported into Canada are dutiable only under the tariff items under which they are listed without regard to their alcohol content, according to a recent ruling of the Canadian Tariff Board.

Charles V. Bacon, New York, well-known chemical specialist in oils, fats and waxes, has been appointed as code administrator by the NRA under the code of the refined and processed fish oil industry. He has been recognized as a technical authority on fish and other oils for the past twenty years.

CHICAGO TRADE NOTES

GEORGE WRISLEY of Allen B. Wrisley Co., Chicago, was a speaker at the February meeting of the Chicao Perfumery, Soap and Extract Association at the Hamilton Club. As chairman of the legislative committee, he discussed pending current legislation. Cyril Sloanes, attorney, was also a speaker, discussing the subject of trademarks.

The February meeting of the Chicago Drug and Chemical Association at the Chicago A. A. on the 28th, heard an address by Dwight H. Green, U. S. district attorney, who gave a detailed analysis of new legislation. Election of officers will take place Thursday, March 28th. The following have been nominated: Frank L. McCartney, Norwich Pharmacal Co., for president; A. J. Rocca, Gazzolo Drug & Chemical Co., for vice president; Wm. B. Erb, Kimble Glass Co., for treasurer; A. C. Stepan, Jr., Chemical Distributors, Inc., for secretary; directors for two years, Arnold G. Schneider, Victor Chemical Works; Oliver Mitchell, Sterling Borax Co.; Robert Landrum, Harshaw Chemical Co., and Dr. Frank B. Kirby, Abbott Laboratories.

Harold L. Aronson, vice president of U. S. Sanitary Specialties Corp., Chicago, accompanied by Mrs. Aronson, sailed March 9th for Bermuda on the S.S. Monarch of Bermuda.

Mr. and Mrs. W. B. McCloud announce the birth of a daughter on February 23rd. Mr. McCloud is president of W. B. McCloud & Co., Chicago.

U. S. Bottlers Machinery Co., Chicago, has just published an eight-page bulletin on their new Twin Piston Filling Machine for handling semi-liquids and semi-solids. The new type machine is said to have all the latest features and improvements on it. Copies of the bulletin known as TPF-1, may be obtained by writing the Chicago office of the company.

The Fifth Annual Packaging Exposition and Conference, sponsored by the American Management Association, was held March 5-8 at the Palmer House in Chicago. Thursday afternoon at the Packing and Shipping Conference and Clinic, Mr. Carl Hall, superintendent of the soap department of Swift & Company, spoke on the Economy of Package Changes. Mr. Hall traced his company's experience with shipping containers and individual cans for their product, Sunbrite Cleanser. Fifty manufacturers displayed their equipment and material for packaging all types of products.

George K. Dahlin, formerly with Jacobsen Publishing Company, is now associated with Carl H. Smith, of Roesling, Monroe & Co., Chicago, brokers in imported and domestic vegetable and fish oils. Mr. Dahlin is well acquainted with the fats and oils industry, having been in intimate contact with the trade for about six years.

George L. Simmonds of U. S. Sanitary Specialties Corp., arrived in Chicago March 4th after a two-month vacation trip, going by boat from New York to Los Angeles. While in Los Angeles he visited an old friend, Samuel Briskin of Columbia Studios and attended the Mayfair Ball and the annual dinner of the Academy of Motion Picture Arts and Science.

P & G CALLED 7-A VIOLATOR

Procter & Gamble Company has been found by the Labor Relations Board to have violated Section 7-A of the National Industrial Recovery Act by sponsoring a company union at its plant at Long Beach, Cal. The order of the board issued March 7, also directed the company to reinstate two employes alleged to have been discharged for union activity. The company has ten days to notify the board of compliance, and if it fails to do so will be cited to the NRA. The company's position on the men discharged was that they were guilty of such offenses as quitting work early, rendering inaccurate inventories, giving false reports on the number of employes who favored the outside union, etc., and that they were simply discharged in the natural course for good cause, and not simply for union activity. The alleged company union involves the employes' conference committee plan in operation at the plant. The soap company has been directed by the board to withdraw any recognition from the conference group as a collective bargaining agency. It is further ordered to notify "its employes that participation in the employes' conference committee plan or refraining from joining or assisting Soap and Edible Oil Workers Union No. 18,409 is not a term or condition of their plan or of the continuation by the company of any of its various plans for their benefit."

EXHIBIT PRIZE WINNING PACKAGES

One of the outstanding packages included among the group of prize winners in the 1934 All-America Package Competition was the new "Palmolive" shaving cream tube. This new package illustrates very well the growing trend toward less lettering and more white space on drug and cosmetic packages. The complete group of prize winning packages was on display March 5 to 8 in the Palmer House, Chicago, as a feature of the Fifth Packaging Exposition. Other prize winning packages included the Parke-Davis shaving cream and tooth paste tubes, the new "Pebeco" tooth powder container, and a family of packages used by E. I. du Pont de Nemours & Co., on cleaners, polishes, waxes, etc.

April 1st, the general sales offices of Solvay Sales Corporation, now located at 61 Broadway, will be moved to 40 Rector Street, New York City. The New York branch of Solvay Sales Corporation is at present located at 40 Rector Street and will continue to maintain offices at this address.

Fragrant at the Counter...

Fragrant in the Soap dish

when they're

PERFUMED *by* FRITZSCHE

ALL too many soaps lose their odor as soon as they reach the soap dish. And fleeting odors make fleeting customers. Fritzsche's Soap Perfumes never wash away. They retain their original scent until the cake is but a shadow of its former self. They are carefully made according to our own scientific formulae that represent the accumulated knowledge of 61 years experience. Besides, we maintain a miniature soap factory where soap is made containing Fritzsche perfumes. This soap is then exposed to the same conditions as prevail at the store and at home. And only after the perfume has demonstrated that it retains its odor against the most adverse influences is it sold.

MAKE *sure* of perfume performance in the soap dish. Use Fritzsche perfumes. Let us design a new odor for your soap if sales are lagging. Or if you are satisfied with your present perfume but uncertain as to its performance let us prepare it according to the special Fritzsche formulae. ***Samples and further particulars on request.***

"Fragrance Creates Sales Appeal"

FRITZSCHE Brothers, inc.

164 SO. CENTRAL AVENUE, LOS ANGELES, CAL.

Proprietors of PARFUMERIES de SEILLANS, Seillans, France
FRITZSCHE BROTHERS, of Canada, Ltd., 77-79 Jarvis St., Toronto, Canada

78-84 BEEKMAN STREET
NEW YORK, N. Y.
118 WEST OHIO ST. CHICAGO, ILL.

PERSONAL AND IMPERSONAL

Jergens-Woodbury Sales Corp. has established minimum prices as follows on Woodbury soaps for sale in California: ten cents per cake, three cakes for twenty-five cents, and twelve cakes for ninety-five cents. California druggists have received contracts specifying these prices and when these are signed, sales at prices lower than those provided will be in violation of the Badham Act.

S. Bayard Colgate, president of the Colgate-Palmolive-Peet Co., Jersey City, N. J., is the author of an article on "Modern Soap Industry Made Possible by Advances in Chemical Control" which appears in the latest issue of *Monsanto Current Events*, published by the Monsanto Chemical Co., St. Louis. Roland Sturhahn is editor of the publication.

Colloidal Detergents, Inc., has opened sales offices in the Chrysler Building, New York, for the marketing of its new detergent for dairies, "Colodol," which product, the company states, has been tried out with unusual success and economy during the past two years in some of the largest dairies in the East. Sales agents have also been appointed in Boston and Baltimore.

Francis Buckley, chemist for the Iowa Soap Co., Burlington, Iowa, died late in February from burns received when ether exploded during a test in the soap plant laboratory. He was 25 years of age. Dorothy Bloom, another employe of the company, was burned painfully when she went to the aid of Buckley. The laboratory was slightly damaged by the fire.

Lite Soap Company, Aurora, Ill., has placed its advertising account with Schwimmer & Scott, Chicago advertising agency.

Dr. Mark W. Tapley has been appointed advertising and merchandising director of the new products division of Sterling Products, Inc. His headquarters will be in New York. For more than eleven years Dr. Tapley has been with E. R. Squibb & Sons, Inc., where he was assistant to the executive vice-president.

Armour & Co. directors have extended from March 11 to April 1, the time in which the old 7 per cent preferred stock of the company may be exchanged for new prior preferred stock and common stock.

"Club Aluminum" cleaner is being offered in a new package by Club Aluminum Co., Chicago.

Frederick C. Ward, manager of industrial sales for Colgate-Palmolive-Peet Co., Jersey City, died February 15 at the age of 47. Mr. Ward joined the old Palmolive Company in 1926 as manager of industrial sales. At the time of the merger he retained this same position with Colgate-Palmolive-Peet Co. He is survived by his widow, Mrs. Marie Habighorst Ward, and a daughter, Ruth Marie Ward.

Barnes Chase Company, Los Angeles, has been appointed to direct the advertising of Los Angeles and White King Soap Companies. Charles T. Nounnan, outdoor advertising executive who has handled White King outdoor advertising for many years, has joined the staff of the Barnes Chase agency.

Offices of R. L. Watkins Co., a division of Sterling Products, Inc., have been moved from Newark, N. J. to New York, where they are now located at 170 Varick Street.

Rainbow Chemical Co., Los Angeles, manufacturer of shampoos and hair preparations, has moved to new quarters at 910 South Broadway, Los Angeles, where larger space is now occupied.

The New York section of the American Association of Textile Chemists and Colorists met at the Alexander Hamilton Hotel, Paterson, N. J., March 1. Dr. Harry E. Smith, Clarion Chemical Corp., spoke on "Pine Oil and Pine Oil Penetrants as Used in the Textile Industry."

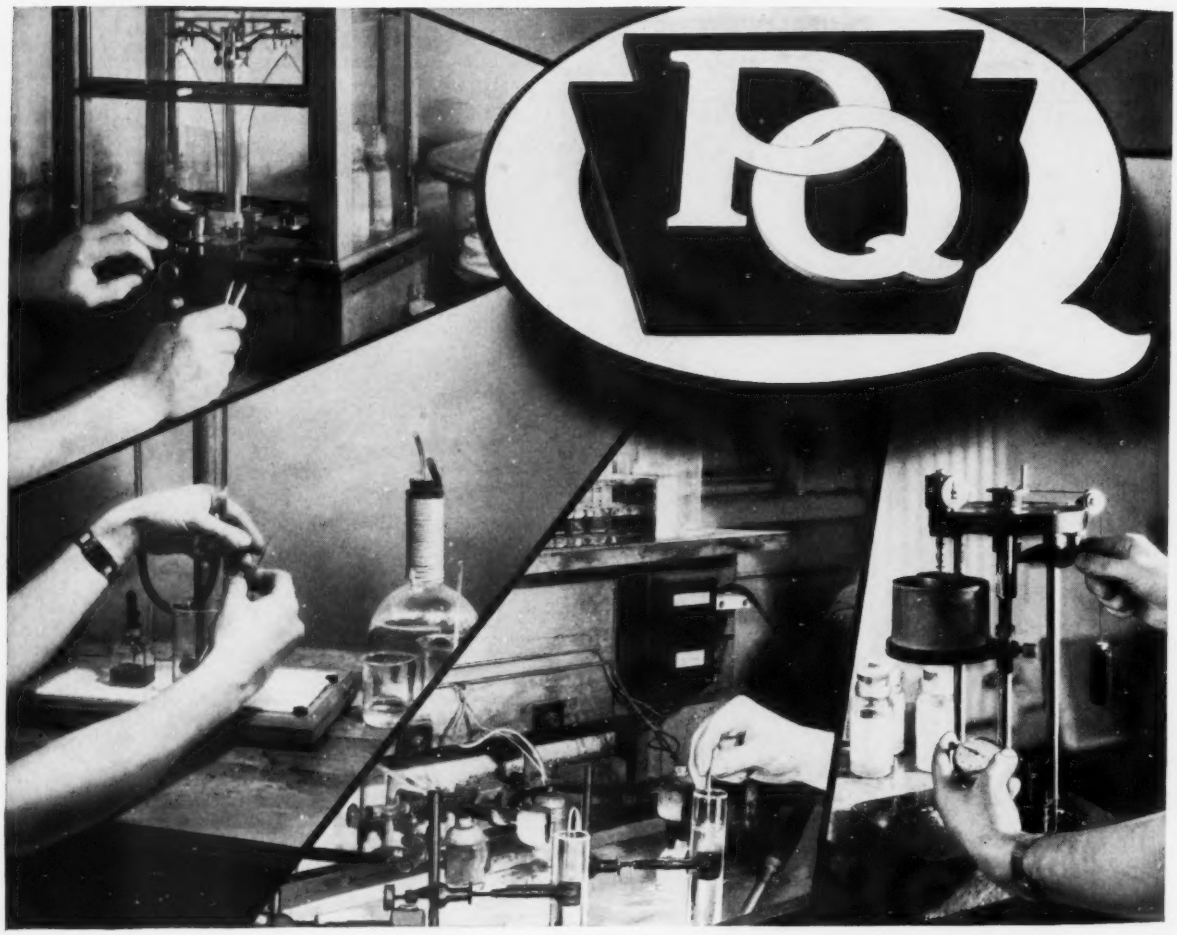
Bon Ami Company earned net profit of $1,092,615 in 1934, after all deductions, comparing with net earnings of $1,086,047 in 1933. The 1934 income is equal to $5.41 a share on 87,000 class A shares and $3.11 a share on 199,800 class B shares.

The advertising appropriation of the Canadian division of Andrew Jergens Company has been increased approximately 60% for 1935, allowing the company to considerably expand its campaign.

Sulco Laboratories, formerly at 215 East 38th St., New York, is now located at 122 East 42nd St. All mail for this organization should be addressed to the attention of Lois W. Woodford.

Clifton Chemical Co. has recently mailed a folder describing its concentrated liquid "Baby Castile Soap".

Pre-tested **SILICATES** *never let you down*



WHEN a slight excess of alkali might spoil the texture of your soap, you appreciate the value of the right quality silicate.

Soap plants from coast to coast take no chance with the expensive oils and fats in their crutchers. They specify P. Q. Silicates, proved reliable for every type of soap, in numerous formulae.

Our chemists closely guard the purity, alkalinity and gravity of the P. Q. Silicates of Soda you order. Their painstaking analyses, for instance, keep the alkali content constant, which insures a smooth mixture in your soap crutchers day in and day out.

Let P. Q. dependable Silicates of Soda help you.

PHILADELPHIA QUARTZ COMPANY

General Offices and Laboratory: 125 S. Third St., Philadelphia, Pa.
Chicago Sales Office: Engineering Bldg. Distributors in 60 cities.
Sold in Canada by National Silicates Ltd., Toronto, Ontario.

REG. U.S. PAT. OFF.

P.Q. SILICATES OF SODA

Colgate-Palmolive-Peet Co. has disposed of the entire assets of its subsidiary, Maison Jeurelle, Inc., toiletry manufacturing concern, by sale to Frank M. Head who has been president and general manager of the company for the past four years. Mr. Head will continue as the active head of the company and offices will continue to be maintained temporarily at 551 Fifth Ave., New York, although they will be moved to a new address shortly. There will be no change in the general set-up or policies of the company.

Taylor Dutton Products, Ltd., Toronto, Canada, manufacturers of powdered hand soaps, made with various types of sawdust under a patented process, and without grit or abrasive, are preparing to introduce their products on the American market. These are held out to be particularly effective for use on mechanics' hands in printing establishments, ink plants, garages, machine shops, etc., and have had a considerable expansion in sales during the past year, according to H. Marshall Taylor, president of the company.

Conrad Botsch, formerly of Van Camp Oil Products Co., New York, has joined Thomas Brokerage Co., Cincinnati.

Hunnewell Soap Co., Cincinnati, is this year celebrating its one hundredth anniversary. The company was founded April 10, 1835, by Daniel Hunnewell. His successor was his son, Greenwood Hunnewell, who sold the business in 1900 to William A. Webb. In 1930 Leslie Webb, Jr., took over the management of the company, acquiring control of the outstanding stock in 1934.

Colgate-Palmolive-Peet Co., Jersey City, reports net earnings of $3,744,106 for 1934, comparing with $373,389 in the previous year. The 1934 earnings equalled $1.16 a share on the 1,985,812 shares of common stock outstanding. In the previous year earnings equalled only $1.50 a share on the 248,197 shares of $6 preferred stock.

Economy Laundry Supply Corp. has been organized by Isadore Miller, D. Amromin and Ben Gorenstein in Chicago. Headquarters are at 2027 Evergreen Ave.

Dr. Martin H. Ittner, chief chemist of Colgate-Palmolive-Peet Co., discussed a number of aspects of soap perfuming at a recent meeting in New York of the American Institute. Dr. Ittner pointed out that a small amount of perfume is necessary in all soaps, even the cheapest laundry soap, to act as a preservative or anti-oxidant. He said further that even those people who insist that they dislike perfumed soaps would refuse to buy an entirely unperfumed cake if they had an opportunity of finding out that such soap deteriorates in a short time, developing a bad color and odor.

Rushville Soap & Chemical Corp., Rushville, Indiana, has begun the manufacture of vegetable oil cleaning compounds, and will shortly add other items to the line. E. R. Casady in charge is secretary and treasurer of the firm.

Peter S. Bezek has been named Chicago manager for Manhattan Soap Co. The company's Chicago offices have been relocated at 323 West Polk Street.

Union Oil Co., Baltimore, has been granted exemption from the wage and hour provisions of the soap and glycerine code on provision that the wage and hour provisions of the petroleum code be observed. The oil company is required to report once a year to the soap code authority confidential figures showing sales of soaps and cleansers and number of employees engaged in soap manufacture.

Patent Cereals Co., Geneva, N. Y., has added the "Dic-A-Doo" paint brush bath to its line of "Dic-A-Doo" cleaners.

The industrial soap department of Armour & Co. is introducing "Acrolene", a new paste dry cleaning soap.

Davies-Young Soap Co., Dayton, is introducing a new dry cleaning soap which will be marketed under the name "Al-Klor". Their "Buckeye" paste soap has been a well-known product among dry cleaners for the past twenty-five years.

Employees of Procter & Gamble Company received a total of $535,000 in profit sharing dividends in 1934, comparing with a similar distribution of $354,000 in 1933. A series of meetings was held recently in cities where the company has plants to celebrate the dividend distribution. Richard R. Deupree, president of the company, addressed the Cincinnati meeting. Announcement was also made at this meeting of plans for a memorial to the late Col. William Cooper Procter. The memorial, a sculptured block of marble, was made possible by voluntary contributions from Procter & Gamble employees throughout the country. It will be erected on the Ivorydale grounds and will take about two years to complete. It was designed and will be sculptured by Ernest Bruce Haswell, Cincinnati sculptor.

RECORD OF TRADE-MARKS

The following trade-marks were published in the February issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

TRADE MARKS FILED

X-CEL—This on reverse plate describing shoe polish. Filed by Larabee Products Co., Wichita, Kans., Dec. 4, 1934. Claims use since Nov. 1, 1934.

ONOX—This in solid letters describing germicide and antiseptic. Filed by Odor-Nox Laboratories, Los Angeles, Dec. 11, 1934. Claims use since Aug. 29, 1934.

KAL-PHENO—This in solid letters describing tooth paste. Filed by Kal-Pheno Chemical Co., Philadelphia, Dec. 12, 1934. Claims use since Aug. 31, 1907.

SKINTONE—This on reverse plate describing soap. Filed by Nassour Bros., Inc., Los Angeles, Oct. 31, 1934. Claims use since July 25, 1933.

CARMANITE—This in outline letters describing soap. Filed by Carman & Co., New York, Dec. 14, 1934. Claims use since March 4, 1933.

DR. OWENS—This in script describing tooth powder. Filed by Dr. Owens Laboratories, Chicago, Oct. 20, 1934. Claims use since Oct. 11, 1933.

BLACK FLAG—This in reverse on package describing insect powder. Filed by Black Flag Co., Baltimore, Dec. 4, 1934. Claims use since Nov. 30, 1934.

TIXOL—This in solid letters describing insecticides. Filed by Wm. Cooper & Nephews, Chicago, Dec. 5, 1934. Claims use since Jan. 1, 1910.

FLIT LOTION—This in solid letters on label describing insect repellants. Filed by Stanco, Inc., Wilmington, Dec. 10, 1934. Claims use since July 11, 1933.

TROMETE—This in solid letters describing water softener. Filed by Tromite Corp., New York, Dec. 5, 1934. Claims use since Nov. 13, 1934.

KARBOL—This in solid letters describing soaps. Filed by Soaps-Perfumes, Ltd., Toronto, Sept. 8, 1934. Claims use since Sept. 11, 1933.

KITCHEN POLICE—This in solid letters describing grease and dirt remover. Filed by Kill Odor Co., Cleveland, Dec. 5, 1934. Claims use since Oct. 29, 1934.

SAFEPAC—This in solid letters describing germicidal and antiseptic preparation. Filed by Esther W. Hollenbeck, Rhinelander, Wis., Jan. 18, 1933. Claims use since Dec. 1, 1932.

NU-ERA—This in solid letters, with sketch of crossed torches and eagle, describing washing preparation. Filed by Nu-Era Cleansing Co., Pittsburgh, Jan. 3, 1934. Claims use since Nov. 1, 1933.

I-SO-TEN—This in solid letters describing germicide and antiseptic. Filed by K. & J. Laboratories, Inc., L. I. City, N. Y., Nov. 5, 1934. Claims use since Sept. 18, 1934.

MIRPEX—This in solid letters describing antiseptic. Filed by Nox Chemical Co., Seattle, Wash., Nov. 28, 1934. Claims use since Nov. 5, 1934.

HIPHENOL—This in solid letters describing insecticides, disinfectants, etc. Filed by Rohm & Haas Co., Philadelphia, Nov. 28, 1934. Claims use since Sept. 14, 1934.

HYAMINE—This in solid letters describing insecticides, disinfectants, etc. Filed by Rohm & Haas Co., Philadelphia, Nov. 28, 1934. Claims use since Sept. 14, 1934.

FLIT POWDER—This in solid letters on carton describing insecticide. Filed by Stanco, Inc., Wilmington, Dec. 10, 1934. Claims use since Feb. 28, 1934.

LA-GALE—This in solid letters describing shampoo. Filed by La Gale Co., Chicago, Dec. 18, 1934. Claims use since January, 1933.

DRY CLEANR—This in outlined letters describing shampoo and insect powder for dogs and cats. Filed by Happy Bird Food Products Co., New York, Dec. 18, 1934. Claims use since Dec. 10, 1934.

CALDER'S DENTINE—This in solid letters describing dentifrice. Filed by Albert L. Calder Co., Providence, R. I., Dec. 31, 1934. Claims use since 1850.

PROPAMINOL—This in solid letters describing antiseptic. Filed by Ostro Research Laboratories, New York, Dec. 31, 1934. Claims use since March 14, 1932.

TRADE MARKS GRANTED

321,450. Liquid Polish. Continental Car-Na-Var Corp., Brazil, Ind. Filed October 1, 1934. Serial No. 356,931. Published December 4, 1934. Class 16.

321,463. Shaving Creams. Ace Manufacturing Co., Chicago. Filed October 18, 1934. Serial No. 357,213. Published November 27, 1934. Class 4.

321,470. Insecticide. E. W. Colledge, General Sales Agent, Inc., Jacksonville, Fla. Filed August 11, 1934. Serial No. 354,892. Published November 13, 1934. Class 6.

321,528. Laundry Soap. Gulf & Valley Cotton Oil Co., New Orleans. Filed October 12, 1934. Serial No. 357,083. Published November 27, 1934. Class 4.

321,562. Tooth Powders. Zendico Hygiene Products Co., New York. Filed March 13, 1934. Serial No. 348,566. Published November 20, 1934. Class 6.

321,582. Floor Wax and Polish. David Pender Grocery Co., Norfolk, Va. Filed October 29, 1934. Serial No. 357,646. Published December 4, 1934. Class 16.

321,589. Antiseptic. Azodal Co., Bronxville, N. Y. Filed September 15, 1934. Serial No. 356,066. Published November 20, 1934. Class 6.

321,606. Moth Proofing Agents. Permo-Tect Mothproofing Co., Toronto, Canada. Filed August 31, 1934. Serial No. 355,627. Published November 20, 1934. Class 6.

321,618. Soap. Iowa Soap Co., Burlington, Iowa. Filed March 26, 1934. Serial No. 349,138. Published November 27, 1934. Class 4.

321,659. Soap Powder, Vegetable Oil Soap, Bottle Cleanser and General Cleanser. Paper Makers Chemical Corp., Wilmington. Filed September 18, 1934. Serial No. 356,152. Published November 27, 1934. Class 4.

321,706. Soap Washing Powder. Edward Longi, New York. Filed October 3, 1934. Serial No. 356,728. Published December 4, 1934. Class 4.

321,708. Soap in Paste Form. Zoff Co., St. Joseph, Mo. Filed October 4, 1934. Serial No. 356,789. Published December 4, 1934. Class 4.

321,736. Liquid Cleaning and Washing Compound. Naylee Chemical Co., Philadelphia. Filed October 16, 1934. Serial No. 357,179. Published December 4, 1934. Class 6.

321,747. Insecticide, Germicides, Bactericides or Compounds. M. Vonsen Co., Petaluma, Calif. Filed October 22, 1934. Serial No. 357,401. Published December 4, 1934. Class 6.

321,777. Soap Flakes or Chips, Soap Stock, Castor Oil Soap, etc. Paper Makers Chemical Corp., Wilmington. Filed September 28, 1934. Serial No. 356,533. Published December 4, 1934. Class 4.

321,859. Brushless Shaving Cream. Dr. Browns Laboratories, Brooklyn. Filed October 12, 1934. Serial No. 357,056. Published December 11, 1934. Class 4.

321,882. Soap. P. Beiersdorf & Co., Inc., New York. Filed July 25, 1930. Serial No. 303,799. Published December 11, 1934. Class 4.

321,915 Shaving Cream. Colgate-Palmolive-Peet Co., Jersey City. Filed October 31, 1934. Serial No. 357,716. Published December 11, 1934. Class 4.

321,952. Shaving Cream and Soap. Dudley B. Wade, Jr., Lagrange, Ga. Filed October 20, 1934. Serial No. 357,359. Published December 11, 1934. Class 4.

321,976. Cleaning and Polishing Preparation. United Necessities Corp., Bartlesville, Okla. Filed June 11, 1934. Serial No. 352,559. Published December 11, 1934. Class 4.

321,990. Grease Detergent, Solvent Cleaning Compound and Metal Polish. Wilson Chemical Co., Rye, N. H. Filed August 13, 1934. Serial No. 354,967. Published December 11, 1934. Class 4.

322,017. Polishes and Cleaning Materials. E. I. du Pont de Nemours & Co., Wilmington. Filed September 13, 1934. Serial No. 355,999. Published December 18, 1934. Class 16.

322,109. Insecticide. Faydon Laboratories, Syracuse, N. Y. Filed September 25, 1934. Serial No. 356,403. Published November 27, 1934. Class 6.

322,129. Shampoo. Zem-Zem Corp., New York. Filed October 3, 1934. Serial No. 356,751. Published December 4, 1934. Class 6.

322,136. Moth Liquid Spray, Fly Spray, Insecticides, and Roach Powder. Uncle Sam Chemical Co., New York. Filed October 1, 1934. Serial No. 356,650. Published November 27, 1934. Class 6.

322,167. Dental Cream. Colgate-Palmolive-Peet Co., Jersey City. Filed October 31, 1934. Serial No. 357,714. Published December 11, 1934. Class 6.

322,176. Antiseptics, Germicides, and Bactericides. C. A. Mosso Laboratories, Chicago. Filed October 18, 1934. Serial No. 357,251. Published December 11, 1934. Class 6.

322,188. Insecticides, Parasiticidals, Vermicides. M. Vonsen Co., Petaluma, Calif. Filed October 22, 1934. Serial No. 357,400. Published December 18, 1934. Class 6.

322,242. Antiseptic and Germicidal Substance. Wallace & Tiernan Products, Inc., Belleville, N. J. Filed November 1, 1934. Serial No. 357,789. Published December 11, 1934. Class 6.

New Equipment and Bulletins

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., send the coupon below to the Publishers of SOAP.

MacNair-Dorland Co., Inc.,
254 West 31st St., New York.

Send us additional information on the following as described in SOAP: Numbers.....

Company .....
Address .....
Attention of .....
Business .....

104. FRAZIER & SON, Belleville, N. J. announce a new model of their Whiz-Packer for dry, free-flowing products. Bulletin available.

105. L. O. KOVEN & BROTHERS, INC., Jersey City, N. J.,—issue new catalog covering the special equipment they design and build. Special sections cover tanks, mixers, containers, equipment for chemical and allied industries, etc. Copies of any desired sections or entire 52-page catalog available.

106. DAVIDSON COMMISSION CO., Chicago,—issue

For 1935 —

Thirty-eight out of forty-two advertisers in SOAP, whose contracts expired the end of last year, have renewed for 1935. New or increased advertising has been placed by twenty-two firms. Both the January and February issues of SOAP were well ahead of corresponding 1934 issues in total advertising pages.

. . . . . ***Why?***

No *Scatterville* Circulation

Like one of Chicago's famous newspapers, SOAP does not offer a circulation in "Scatterville." We do not attempt to spread out in fields where we have no business to coax in stray advertising. The circulation of SOAP is concentrated among manufacturers of soaps and sanitary products and sanitary service organizations.

No *Fake* Circulation

SOAP is a member of the Audit Bureau of Circulations. Only two other publications in the entire *manufacturing* field of soaps, drugs, cosmetics, chemicals, chemical specialties, etc., also prove their circulation by membership in this organization, and these are both chemical engineering papers.

Highly *Responsive* Circulation

Manufacturers and distributors reading SOAP are alert and alive. They are unusually responsive to the right kind of advertising. If your product can demonstrate advantages, advertising in SOAP will get you some new customers.

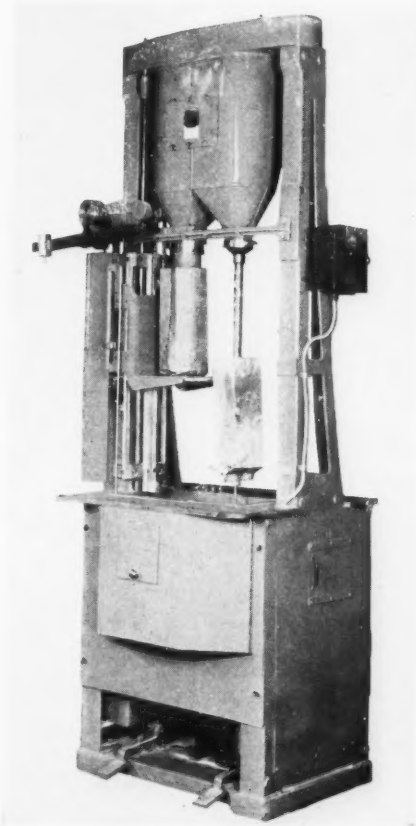
A Real *Reading* Circulation

A man closely identified with the industry, and in a larger way intimately associated with national advertising and all types of publications, recently remarked—"I have never seen a publication of any kind as closely read by the industry it serves as SOAP." The editor of one of England's outstanding chemical trade papers wrote—"I find your journal the most informative of all the technical journals we receive here from America. Each issue is cut into a dozen parts and filed for future reference. With most other journals one is fortunate in getting one article per issue."

. . . real, honest, responsive circulation plus unusual reader interest—here is the reason for the volume of advertising carried regularly in SOAP *and the remarkably high advertising renewal percentage.*

folder listing high and low prices of oils, fats, etc., over the ten year period from 1924 to 1934.

102. Stokes & Smith Co., Philadelphia, announce a new type of packing and weighing machine for use with powders and granular materials. It is their Duplex Pack Weigher, which can be transformed into eight



or more different models from the one base machine. It is an auger type machine incorporating the newest developments and designed especially for use with powdered insecticides, granular and powdered soaps, etc. and can also be used with paste materials. Bulletin available.

107. Lukens Steel Co., Coatesville, Pa.,—issues booklet giving a pictorial Summary of the products of the company. Nickelclad steel soap boiling kettle is illustrated. Copies available.

108. Alsop Engineering Corp., New York,—announces new bottle rinser which uses as a rinsing fluid the same liquid with which the bottles are later to be filled. An internal filter that is a part of the unit removes all dirt and sediment from the liquid after the washing operation. This new principle eliminates plumbing, piping, heavy water cost, etc.

109. Felton Chemical Co., Brooklyn, N. Y.,—issue new catalog on their various products chiefly for the flavoring industry, including terpeneless oils, solvents, raw materials, and other specialties. Copies available.

110. Pneumatic Scale Corp., Norfolk Downs, Mass.,—issue the February number of their house organ "Packaging". The issue shows a floor design of a complete packaging unit for dry products. Copies available.

111. Robinson Manufacturing Co., Muncy, Pa., have issued a new 56 page booklet describing their complete line of mixing equipment, covering their Gardner and Unique Lines for both wet and dry mixing, sifting, agitating, batch weighers, etc. They also show their special vertical soap crutcher, available in 1,000, 1,500, 2,000 lb. sizes, and up. Most illustrations are given with specifications and some are shown in plant hook-up. Copies of the booklet will be sent on request to Soap or the company.

112. Production of a new low-price portable capping machine has been announced by Ludcke Corporation, 41 North Beacon Street, Watertown, Massachusetts. This new capper, called the "Kinex," is said to be the only portable unit on the market capable of tightening screw closures of all types, shapes and sizes from 10 m/m to 90 m/m; and if necessary, closures can be put on tighter than is consistently possible with high hand tightening. The machine can be used for tray or conveyor belt operation and tightens caps at a speed up to 100 per minute.

New Patents

Conducted by

Lancaster, Allwine & Rommel

Registered Attorneys

PATENT AND TRADE-MARK CAUSES

815 15th St., N. W., Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 1,985,987, Spray Drying Soap. Patented January 1, 1935 by Thomas Edward Hall, Wyoming, Ohio, assignor to the Procter & Gamble Company, Cincinnati, Ohio. In the spray drying of soap in a spray drying tower, the method of controlling the bulk density of the dried product which consists in spraying the soap downwardly in the tower, in substantially uniformly sized particles in introducing a counter current of heated drying gas into the tower and controlling the elevation within the tower at which the drying gas is introduced, and returning a portion of the exhaust gas into the bottom of the tower.

No. 1,986,243, Polish. Patented January 1, 1935 by Maurice H. Arveson, Hammond, Ind., assignor to Standard Oil Company of Indiana, Whiting, Ind. An emul-

(*Turn to Page* 49)

CONTRACTS AWARDED

Kirkman & Son have been awarded bids as follows on material for U. S. Marine Corps, Philadelphia: 52,500 lbs. laundry soap, 3.79c; 7,875 lbs. toilet soap, 6.83c. R. M. Hollingshead Corp. awarded 8,600 lbs. hand soap at 4.67c. Procter & Gamble Co. awarded 36,000 lbs. soap powder at 2.87c. Conray Products Co. awarded 10,625 lbs. grit soap at 3.48c, 15,625 lbs. grit soap at 3.18c and 5,300 lbs. trisodium phosphate at 7.82c. Pennsylvania Salt Mfg. Co. awarded 32,000 lbs. lye at 4.04c. Solarine Co. awarded 6,900 cans metal polish at 5.73c.

H. H. Rosenthal Co., New York, has been awarded 7,000 lbs. soda ash for Edgewood Arsenal at a price of 1.94c. James Good, Philadelphia, awarded 800 lbs. caustic soda at 3.8c.

A contract covering 10,000 lbs. floor wax for the U. S. Marine Corps, Philadelphia, has been awarded to Crystal Soap & Chemical Co., Philadelphia, at a price of 11.2c, less 1%.

Innis, Speiden & Co., New York, have been awarded a contract covering 14,000 lbs. naphthalene for the U. S. Marine Corps, Philadelphia, at a price of 3.95c, less 1%.

Colgate-Palmolive-Peet Co., Jersey City, has been awarded a contract covering 160,260 lbs. laundry soap for St. Louis U. S. Army Quartermaster at a price of 3.433c. Day & Frick, Philadelphia, awarded 6,600 11-oz. cakes of grit soap at 2.05c.

Armour & Co., Chicago, was low bidder on 13,000 lbs. soap powder for U. S. Post Office Dept., Washington, in a recent bidding, with a quotation of 2.26c.

Procter & Gamble Distributing Co. has been awarded a contract for 18,060 lbs. laundry soap for St. Louis U. S. Army Quartermaster at a price of 3.35c.

A number of price advances on various brands of its soaps were made by Procter & Gamble Company late last month. It is difficult to give any precise figures indicating the amount of the increase, as varying advances were made in different products and for different localities. The changes represented the fourth successive advance in prices since last year. It is understood that they were based on the higher raw material costs in recent months.

Manning O'Connor, manager of the toilet article department of Colgate-Palmolive-Peet Co., reports that the company's current "double your money back" campaign has practically doubled volume on nineteen of the leading "Colgate" and "Palmolive" toilet articles. At the same time, he advises, retailers are enabled to sell these items at full advertised prices, and thus make 33% profit on their money. This campaign is a feature of Colgate's profit stabilization plan.

Paper soap sheets in the form of small booklets are wanted by a firm in the middle-west. A number of inquiries for these paper sheets impregnated with soap have been received by *Soap*. They are used in booklet form usually for advertising purposes. Information regarding a source of supply will be passed along by the publishers of *Soap*.

RUSSIAN SOAP OUTPUT UP 67%

Joseph Stalin has kept his promise to give Russians more soap, official figures for 1935 production show. The figures place the proposed year's output at 347,000 tons, an increase of 67 per cent over the previous year. In the Spring of 1933 a delegation of collective farmers complained to the Soviet leader that farms were inadequately stocked with soap, and requested particularly the fragrant kind. It was then M. Stalin made his promise.

Bills have been presented in the U. S. Senate and the House (S. 1891 and H. R. 5854) providing for the imposition of taxes on a group of imported oils and fats in addition to those affected by the processing tax. The bills would also impose a tax of two cents per pound on imports of soap and one-half cent per pound on imported glycerine.

John P. Harris, manager of the Chicago office of Industrial Chemical Sales Co. for the past eight years, has joined the sales staff of Wilson & Bennett Mfg. Co., Chicago, steel containers.

Filtrol Company of California has been named licensing agent for Gray Processes Corp., Newark, N. J., for three new processes involving the use of fine clay.

"Windex", the new waterless window cleaner brought out last year by Drackett Chemical Co., Cincinnati, is reported to be meeting with increasing sales following an extensive advertising campaign. In use, a rag is simply dampened with the liquid cleaner, rubbed over the glass surface to be cleaned, and this followed up by drying with another cloth. Use of water, buckets, sponges, chamois, etc., is eliminated.

Market Report on

TALLOW, GREASES, AND OILS

(*As of March 8, 1935*)

NEW YORK—Soap making oils and fats continued to advance in price on a broad front this period. Practically every item in the list shared in the sharp upward movement which carried some soap fats a cent to a cent and a half per pound higher. Sellers were not at all anxious to press matters, finding that with no assistance at all from themselves buyers were doing a satisfactory job of pushing prices higher. It was not only the buyers in the soap field that were bidding for stocks. Users of edible oils, finding cotton oil overpriced in recent weeks, have been bidding more and more strongly for stocks of edible coconut oil, raising the price of crude as well as refined oil in the process. The result is that soapmakers are paying with a vengeance for the planned advance in edible oil prices. According to the statement of one large soap company purchasing agent, the soap industry has "badly misguessed the whole oil and fat market situation." In his opinion even higher prices are to be expected.

COCONUT OIL

Both coconut oil and copra continued their aggressive advance this period as a result of steady and in some cases almost frantic buying by soap makers as well as edible oil users. The Philippine copra crop is reliably reported to be off anywhere from 25 to 35 per cent as a result of the typhoon, which is one of the factors explaining the rise in price this month from 2¾ to 3¾c per pound. Manila oil is quoted at 6⅛c per pound in New York, as compared with 4½c a month ago.

CORN OIL

Corn oil continued in strong position, the mill tank price advancing a cent to eleven cents per pound.

COTTON OIL

Cotton oil was the quietest feature in an otherwise active oil and fat market, with speculative activity light and prices showing little change.

GREASE

The greases followed the rest of the market upward this period, advancing almost a cent a pound to a basis of 6½c per pound for yellow and house grease.

PALM OIL

Palm oil was again sharply higher this period, not only on spot but also for shipment. The current price is 5½c to 5¾c per pound. One local supplier reports that he is unable to promise delivery before May 1 on some thirty or forty single orders for tanks from soap users.

TALLOW

Tallow reached a new high level this month, city extra going above 7c per pound on some sales. It is reliably reported that renderers are off in the neighborhood of thirty per cent as compared with production last year. An unusual feature of the market this period was the entrance of middle-western buyers into the eastern market, their requirements normally being taken care of in Chicago. This gives an idea of the scramble which is taking place to secure stocks.

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P & G AND LEVER LEAD SOAP ADVERTISERS

Two soap companies were numbered among the first ten national newspaper advertisers in 1934, according to figures prepared for *Printers' Ink* and published in the February 28 issue of that publication. Lever Bros. Co. again ranked fifth in national standing, with 10,590,375 lines, as compared with 11,306,513 lines in 1933. Procter & Gamble Co. moved back from seventh to eighth place, in spite of an increase in lineage. Its 1934 space totaled 6,525,930 lines as compared with 5,681,974 lines in 1933. Colgate-Palmolive-Peet Co. which ranked tenth in 1933 with linage of 4,069,242, moved far back in the list in 1934, to forty-seventh place. Its linage dropped to 1,275,488 as advertising was curtailed following a change in sales policies.

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W. A. Welch of the Industrial Chemical Sales Co., New York, chemical subsidiary of the West Virginia Pulp & Paper Co., has been placed in charge of the newly opened branch sales office in Cleveland at 418 Schofield Building. He will have charge of sales in Ohio and portions of neighboring states for activated carbons, chalk, clays, fatty acids and other products. For the past four years, Mr. Welch has been in charge of research on activated carbons at the Tyrone, Pa., plant of the company.

◆

Stocks of crude cottonseed oil on hand in United States as of Jan. 31, 1935, totaled 100,562,884 lbs., as compared with 188,940,298 lbs. held on the same date last year. Stocks of refined oil totaled 513,340,742 lbs., Jan. 31, 1935, as compared with 781,007,531 lbs., Jan. 31, 1934.

Market Report on

SOAP AND DISINFECTANT CHEMICALS

(*As of March 8, 1935*)

NEW YORK—Little activity was reported in the market for soap and disinfectant chemicals this period. Buyers were inactive in the earlier weeks, being disposed to limit purchases as much as possible pending the Supreme Court decision on the gold question. With this element of uncertainty hainging over all markets, most buyers were disposed to take a waiting attitude wherever possible. Even after the decision the wave of delayed buying failed to reach the expected proportions. There were no important price changes during the period and no new features of interest.

ALKALIS

The demand for alkalis continued irregular this period, although it is reported that sales to soap companies held up better than those to other consuming industries. In spite of the rather cautious buying policies adopted by many users, sales totals held up fairly well compared with January, which was also a quiet month. Prices are unchanged at the schedule previously in effect.

COAL TAR PRODUCTS

A firmer tone was noted in the coal tar market this period, with surplus stocks pretty well disposed of and sellers consequently being less disposed to make further price concessions. Manufacturers of synthetic resins are currently active in the cresol and cresylic acid market, taking up some of the slack resulting from reduced purchases by other users. Both crude and refined naphthalene are firmer than they have been in recent weeks and indications are that no further reductions in price may be expected.

ROSIN

The rosin market showed its usual seasonal inactivity this period. Quotations were steady and practically unchanged. Receipts have been unusually small even for this season of the year, with the result that stocks have been further reduced.

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Ungerer & Co., New York, importers and manufacturers of perfuming materials, have announced that Ivon H. Budd, formerly with Budd Aromatic Chemical Co., has joined their organization. The latter concern has retired from business. Mr. Budd has had many years of experience in the essential oil trade having previously been associated with the old house of Julian W. Lyon & Co. and their successors Wangler-Budd Co.

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John E. Fontaine has been named general sales manager of United Drug Co., in a recent promotion, with John M. Considine becoming assistant sales manager. George C. Frolich becomes director of the newly formed department of research and technology. Dr. Paul W. Spickard, formerly acting chief of drug control, U. S. Food and Drugs Administration, has become associated with the company in the new research department.

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Monsanto Chemical Co. earned net profit of $2,771,629 during 1934, equal to $3.20 a share on 864,000 shares outstanding.

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NEW PATENTS

(*From Page 45*)

sified, neutral, non-saponaceous cleaning and polishing composition comprising from 24 to 26% of a non-volatile mineral oil having a viscosity of the order of 50 seconds Saybolt at 100° F., 65 to 70% of water, 0.3 to 0.45% of gum tragacanth, 1 to 5% of a mild abrasive, and about 3.2% of glycerin.

No. 1,986,286, Composition for Laundering. Patented January 1, 1935 by Silas M. Ratzkoff, Philadelphia, Pa., assignor to Publicker Research and Development Company, Philadelphia, Pa. In the art of laundering fabrics which have been subjected to a washing operation with an aqueous solution of an alkaline cleansing agent, the method for neutralizing alkaline materials remaining in association with such fabrics subsequent to the washing operation which comprises bringing the fabrics into contact with a water solution of a simple neutral salt of a weak metallic base and a strong acid.

No. 1,986,388, Metal Polish. Patented January 1, 1935 by William S. Calcott, Pennsgrove, N. J., and Richard G. Clarkson, Wilmington, Del., assignors to E. I. du Pont de Nemours & Company, Wilmington, Del. A polish for metallic surfaces which contains in admixture wax and a higher fatty acid dissolved in an organic solvent which is immiscible with water in large part at least and an alkaline aqueous solution containing a cleaning agent of the water soluble aliphatic acid group consisting of oxalic acid, acetic acid, tartaric acid, citric acid and the alkali salts of the acids and a wetting out agent.

No. 1,987,260, Manufacture of Glycerine. Patented January 8, 1935 by Cecil Herbert Lilly, Saltcoats, Scotland, assignor to Imperial Chemical Industries, Ltd. In the manufacture of glycerine by the fermentation of carbohydrates in the presence of a soluble sulphite and a soluble bisulphite in such proportions as to give an approximately neutral solution, the step of adding to the fermenting mash from time to time relatively small quantities of regenerated sulphite-bisulphite solution containing glycerine from a previous fermentation of the kind described.

Market Report on

ESSENTIAL OILS AND AROMATICS

(*As of March* 8, 1935)

NEW YORK—The feature of the market for essential oils and aromatics this period was the report from Italy that the Italian Government had placed a ban on imports of orange, lemon and lemongrass oils, as well as citral and linalyl acetate. This step was said to have been taken to combat the widespread sophistication of Italian citrous oils which has been causing so much trouble for the essential oil industry for a number of years. If the embargo is effective it will end the practice of shipping oils to Italy for re-export as Italian oils, and would also aid in stopping adulteration of oils of actual Italian origin. The result of this step was immediately felt in the markets for these products, with Italian citrous oils being advanced abruptly and the aromatic chemicals affected dropping in price.

ANISE OIL

In spite of the basic firmness in this market their continues to be a shifting about in price quotations by various sellers. The inside price was two cents lower this period at 42c, the concession not representing any real change in the picture but being merely the result of competition among suppliers who acquired stocks of oil at prices considerably below the present market level.

BERGAMOT OIL

Bergamot oil was moderately stronger this period, although the advance in price was not so striking as in the case of other Italian oils such as lemon and orange. The current market ranges from $1.45 to $1.70.

CASSIA OIL

This oil was firmly maintained at the price previously in effect, $1.30 to $1.40 per pound.

CITRONELLA OIL

Slightly higher prices are being quoted on Ceylon oil currently, as a result of higher cables from producing areas. With Java oil easing off moderately, the spread between the two oils has been reduced. Ceylon is quoted at 28c to 30c and Java at 31 to 36c.

GERANIUM OIL

Geranium quotations were unchanged this period in a quiet market. A wide range of prices continues to be quoted by different suppliers.

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W. H. Adkins, formerly with Givaudan-Delawanna, Inc., has joined Schimmel & Co., New York, and will take charge of sales in the metropolitan district. The marriage of Gert Keller of Schimmel & Co. to Miss Ruth Jane Williams has recently been announced.

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Rupert C. Watson of Ungerer & Co., New York, is spending a month on the Pacific Coast on business, principally in Hollywood and Los Angeles. He specializes in the perfume materials of M. Naef & Co., Geneva, Switzerland, who are represented in the United States by Ungerer.

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SCHIMMEL PERFUME REPORT ISSUED

Schimmel & Co., Miltitz-bei-Leipsig, Germany, have issued their Annual Report on Essential Oils and Synthetic Perfumes covering the year 1933. Copies may be obtained from their United States and Canadian representatives, the recently organized Schimmel & Co., Inc., 601 W. 26th St., New York. The latest edition of this valuable publication covers a wide range of subjects of interest to buyers of perfuming materials, as have previous issues. These include commercial notes and scientific reports on volatile oils, aromatic chemicals and drugs, original contributions from the Schimmel scientific library and information on research in the field of the chemistry of odorous substances. In addition, the publication gives statistical data of considerable value together with technical abstracts on alcohols, aldehydes, ketones, acids and esters, etc.

Schimmel & Co., Inc., recently announced the appointment of two new members to their selling organization. W. H. Adkins, formerly with Givaudan-Delawanna, Inc., will handle sales in the New York territory. D. P. Fellows will represent the company in New England, with headquarters in Boston. Hans Schettler, vice-president and director of the European house, is at present in the United States. He arrived on the *Europa*, Feb. 22 for a visit of a month.

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THE LEGISLATIVE SITUATION

(*From Page* 31)

facturer's wholesale list price per unit." I have asked one of the companies most interested to look into the situation and let me know what, if anything, they think should be done about such proposed legislation. If any to whom this letter is addressed, have any point of view to express, I shall be glad to receive it.

In New York, there has just come to my desk Assembly Bill 764, introduced by Mr. Doyle, requiring that cosmetics (so defined that soap might be interpreted as being included) shall be non-injurious and must be so labelled. I am told that this is a perennial bill, and do not know how much interest, if any, may be taken in it. We shall try to see what the situation is, and to secure the specific exclusion of soaps.

May I ask, please, that if any soap manufacturer learns of bills in other states that specifically aim at regulation of, or taxation on, the soap industry, that he forward full information to us at the earliest moment. It is clear that cosmetics (and soap) regulation and taxation is very much in the legislative mind, and that our industry should take every possible step to protect its interests and to prevent unjust and burdensome provisions from being enacted into law.

CURRENT PRICE QUOTATIONS

(As of March 8, 1935)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	.08½	.10
Acid, Boric, bbls., 99½%	ton	95.00	100.00
Cresylic, 97½ dk., drums	gal.	.43	.44
97-99%, pale, drums	gal.	.46	.47
Low boiling grade	gal.	.64	.65
Oxalic, bbls	lb.	.11	.11¼
Adeps Lanae, hydrous, bbls	lb.	.14	.15
Anhydrous, bbls	lb.	.15	.16
Alcohol, Ethyl, U. S. P., bbls	gal.	2.45	2.69
Complete Denat., No. 5, drums., ex.	gal.	.34	.42
Alum. Potash lump	lb.	.03	.03¼
Ammonia Water, 260, drums, wks	lb.	.02½	.02¾
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bleaching Powder, drums	100 lb.	1.75	2.35
Borax, pd., cryst., bbls., kegs	ton	50.00	55.00
Carbon Tetrachloride, car lots	lb.	—	.05¼
L. C. L.	lb.	.06	.08½
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U. S. P., drums	lb.	.10½	.11
Creosote Oil	gal.	.11½	.12½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls	lb.	.06	.07
Fullers Earth	ton	15.00	24.00
Glycerine, C. P., drums	lb.	.14	.14½
Dynamite, drums	lb.	.13¾	.14¼
Saponification, drums	lb.	.10	.10¼
Soap lye, drums	lb.	.09	.09¼
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls	per bbl.	1.70	2.20
Mercury Bichloride, kegs	lb.	.93	1.08
Naphthalene, ref. flakes, bbls	lb.	.04¾	.05¼
Nitrobenzene (Myrbane) drums	lb.	.09½	.11
Paradichlorbenzene, bbls., kegs	lb.	.16	.25
Petrolatum, bbls. (as to color)	lb.	.01⅞	.06¾
Phenol, (Carbolic Acid), drums	lb.	.14¼	.16
Pine Oil, bbls	gal.	.59	.65
Potash, Caustic, drums	lb.	.06¼	.06½
Flake	lb.	.07	.07¼
Potassium Carbonate, solid	lb.	.07¼	.09½
Liquid	lb.	.03½	.03¾
Pumice Stone, powd	100 lb.	2.50	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs	bbl.	5.20	5.95
Grade K to N	bbl.	6.00	6.40
Grade WG and X	bbl.	6.85	7.45
Wood	bbl.	4.60	6.50
Rotten Stone, pwd. bbls	lb.	.02½	.04½
Silica, Ref., floated	ton	18.00	22.00
Soap, Mottled	lb.	.04⅛	.04⅜
Olive Castile, bars	lb.	.13	.19
powder	lb.	23	.30
Olive Oil Foot	lb.	.07	.07½
Powdered White, U. S. P.	lb.	.19	.21
Green, U. S. P.	lb.	.06½	.08
Tallow Chips	lb.	.07¼	.07¾
Whale Oil, bbls	lb.	.05	.06
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.23	1.50
Car lots, in bulk	100 lb.	—	1.05
Soda Caustic, cont., wks., sld	100 lb.	—	2.60
Flake	100 lb.	—	3.00
Liquid, tanks	100 lb.	—	2.25
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	11.40	14.00
Sodium Fluoride, bbls	lb.	.07½	.09¼
Sodium Hydrosulphite, bbls	lb.	—	.22
Sodium Silicate, 40 deg., drum	100 lb.	—	.80
Drums, 60 deg. wks	100 lb.	—	1.65
In tanks, 15c. less per hundred, wks.			
Tar Acid Oils, 15-25%	gal.	.21	.24
Trisodium Phosphate, bags, bbls	lb.	.03	.0355
Zinc Oxide, lead free	lb.	.06	.06¼
Zinc Stearate, bbls	lb.	.18	.19

Oils — Fats — Greases

Castor, No. 1, bbls	lb.	.10¼	.11
No. 3, bbls	lb.	.09¾	.10½
Coconut			
Manila, tanks, N. Y	lb.	.06⅛	.06¼
Tanks, Pacific coast	lb.	.05⅞	.06
Cod, Newfoundland, bbls	gal.	—	.36
Copra, bulk, coast	lb.	—	.03¾
Corn, tanks, mills	lb.	.11	Nom.
Bbls., N. Y.	lb.	.12½	Nom.
Cottonseed, crude, tanks, mill	lb.	—	.10½
PSY	lb.	—	Nom.
Degras, Amer., bbls	lb.	.05¼	.06
English, bbls.	lb.	.05½	.06½
Neutral, bbls.	lb.	.09	.12
Greases, choice white bbls., N. Y	lb.	.06¾	.07½
Yellow	lb.	.06½	.06⅝
House	lb.	.06½	.06⅝
Lard, City	lb.	—	.14¼
Compound tierces	lb.	.13½	.13¾
Lard Oil,			
Extra, bbls.	lb.	—	.10
Extra, No. 1, bbls	lb.	—	.09¾
No. 2, bbls.	lb.	—	.09
Linseed, raw, bbls., spot	lb.	.0930	.0970
Tanks, raw	lb.	—	.0870
Boiled, 5 bbls. lots	lb.	—	.1050
Menhaden, Crude, tanks, Balt	gal.	.30	Nom.
Oleo Oil, No. 1, bbls., N. Y	lb.	.13	Nom.
No. 2, bbls., N. Y.	lb.	.12½	Nom.
Olive, denatured bbls., N. Y	gal.	.88	.90
Foots, bbls., N. Y	lb.	—	.08½
Palm	lb.	.05½	.05¾
Palm Kernel, casks, denatured	lb.	—	.05⅜
Peanut, domestic tanks	lb.	.10¾	Nom.
Red Oil, distilled bbls	lb.	.09⅛	.10⅛
Saponified, bbls.	lb.	.09⅛	.10⅛
Tanks	lb.	—	.08¼
Soya Bean, domestic tanks, N. Y.	lb.	—	.10
Stearic Acid,			
Double pressed	lb.	.11¼	.12¼
Triple pressed, bgs	lb.	.14	.15
Stearine, oleo bbls.	lb.	.12¼	.12½
Tallow, special, f.o.b. plant	lb.	.06¾	.06⅞
City, ex. loose, f.o.b. plant	lb.	.06⅞	.07
Tallow, oils, acidless, tanks, N. Y.	lb.	—	.09
Bbbls., c/l N. Y.	lb.	—	.09½
Whale, refined	lb.	.07¼	.07¾

Essential Oils

Almond, Bitter, U. S. P.	lb.	$2.00	$2.50
Bitter, F. F. P. A.	lb.	2.25	2.75
Sweet, cans	lb.	.58	.60
Anise, cans U. S. P.	lb.	.42	.46
Apricot, Kernel, cans	lb.	.22	.25
Bay tins		1.25	1.50
Bergamot, coppers	lb.	1.45	1.70
Artificial	lb.	1.00	1.30
Birch Tar, rect. tins	lb.	.70	.78
Crude, tins	lb.	.12	.16
Bois de Rose, Brazilian	lb.	1.25	1.40
Cayenne	lb.	2.80	2.90
Cade, cans	lb.	.26	.30
Cajuput, native, tins	lb.	.50	.60
Calamus, tins	lb.	3.25	3.50
Camphor, Sassy, drums	lb.	—	.19
White, drums	lb.	—	.20
Cananga, native, tins	lb.	2.50	2.55
Rectified, tins	lb.	2.95	3.00
Caraway Seed	lb.	1.90	2.20
Cassia, Redistilled, U. S. P.	lb.	1.30	1.40
drums	lb.	—	1.25
Cedar Leaf, tins	lb.	.57	.70
Cedar Wood, light, drums	lb.	.22	.25
Citronella, Java, drums	lb.	.31	.36
Citronella, Ceylon, drums	lb.	.28	.30
Cloves, U. S. P., tins	lb.	.90	.92
Eucalyptus, Austl., U. S. P., cans	lb.	.27	.30
Fennel, U. S. P., tins	lb.	1.00	1.25
Geranium, African, cans	lb.	4.75	7.25
Bourbon, tins	lb.	4.50	6.40
Hemlock, tins	lb.	.70	.75
Lavender, U. S. P., tins	lb.	3.00	7.00
Spike, Spanish, cans	lb.	1.20	1.60
Lemon, Ital., U. S. P.	lb.	1.10	1.50
Lemongrass, native, cans	lb.	.85	1.10
Linaloe, Mex., cases	lb.	1.35	1.50
Nutmeg, U. S. P., tins	lb.	1.20	1.35
Orange, Sweet W. Ind., tins	lb.	1.75	2.20
Italian cop.	lb.	1.85	2.75
Distilled	lb.	.65	.70
Origanum, cans, tech.	lb.	.60	.70
Patchouli	lb.	2.75	3.50
Pennyroyal, dom.	lb.	1.85	1.90
Imported	lb.	1.35	1.70
Peppermint, nat., cases	lb.	2.75	3.25
Redis., U. S. P. cases	lb.	3.00	3.45
Petit, Grain, S. A. tins	lb.	1.05	1.10
Pine Needle, Siberian	lb.	.85	.90
Rose, Natural	oz.	5.50	18.00
Artificial	oz.	2.00	3.00
Rosemary, U. S. P., tins	lb.	.32	.38
Tech., lb. tins	lb.	.28	.35
Sandalwood, E. Ind., U. S. P.	lb.	5.00	5.50
Sassafras, U. S. P.	lb.	.75	1.00
Artificial	lb.	.45	.50
Spearmint, U. S. P.	lb.	1.75	2.10
Thyme, red, U. S. P	lb.	58	1.02
White, U. S. P.	lb.	.65	1.10
Vetivert, Bourbon	lb.	7.50	8.50
Java	lb.	16.00	20.00
Ylang Ylang, Bourbon	lb.	4.60	7.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.50	$2.25
Amyl Cinnamic Aldehyde	lb.	2.25	3.50
Anethol	lb.	1.00	1.10
Benzaldehyde, tech	lb.	.60	.65
U. S. P.	lb.	1.10	1.30
Benzyl, Acetate	lb.	.60	1.00
Alcohol	lb.	.75	1.15
Citral	lb.	2.55	2.65
Citronellal	lb.	2.25	2.50
Citronellol	lb.	2.55	2.70
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.10	3.30
Cymene, drums	gal.	.90	1.25
Diphenyl oxide		.85	1.25
Eucalyptol, U. S. P.	lb.	.62	.65
Eugenol, U. S. P.	lb.	2.00	2.50
Geraniol, Domestic	lb.	1.25	2.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	3.00	3.50
Heliotropin	lb.	2.00	2.10
Hydroxycitronellal	lb.	3.50	9.00
Indol, C. P.	oz.	2.00	2.50
Ionone	lb.	3.60	6.50
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	1.65	2.25
Linalyl Acetate	lb.	1.85	4.25
Menthol	lb.	3.50	3.60
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.15	3.20
Paracresol	lb.	4.50	6.00
Salicylate, U. S. P.	lb.	.40	.45
Musk Ambrette	lb.	5.75	6.00
Ketone	lb.	6.25	6.50
Moskene	lb.	5.00	6.00
Xylene	lb.	2.00	2.50
Phenylacetaldehyde	lb.	4.00	6.50
Phenylacetic Acid, 1 lb., bot.	lb.	3.00	4.00
Phenylethyl Alcohol, 1 lb. bot.	lb.	4.25	4.50
Rhodinol	lb.	5.75	8.00
Safrol	lb.	.54	.58
Terpineol, C. P., 1,000 lb. drs.	lb.	.33	.35
Cans	lb.	.36	.37
Terpinyl Acetate, 25 lb. cans	lb.	.80	.90
Thymol, U. S. P.	lb.	1.40	1.50
Vanillin, U. S. P	lb.	3.00	3.50
Yara Yara	lb.	1.30	2.00

Pyrethrum Products

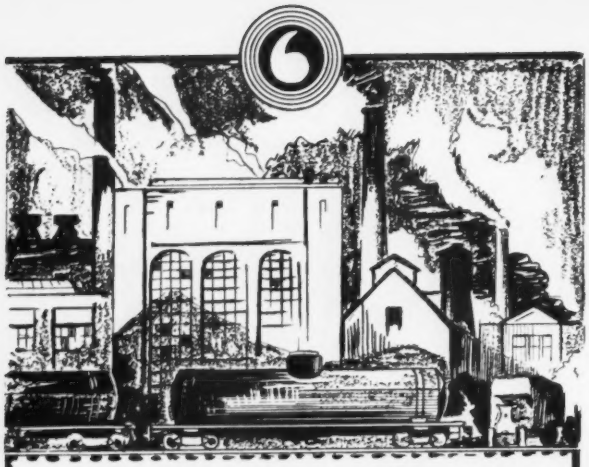
Insect powder, bbls.	lb.	.34	.37
Concentrated Extract			
5 to 1	gal.	2.05	2.10
15 to 1	gal.	5.75	6.00
20 to 1	gal.	7.80	7.85
30 to 1	gal.	11.55	11.60

Gums

Arabic, Amb. Sts.	lb.	.09	.09½
White, powdered	lb.	.13	.13½
Karaya, powdered No. 1	lb.	.08	.09
Tragacanth, Aleppo, No. 1	lb.	1.15	1.20
Sorts	lb.	.11	.12

Waxes

Bees, white	lb.	—	.33½
African, bgs.	lb.	.21	.22
Refined, yel.	lb.	.25	.26
Candelilla, bgs.	lb.	.13	.14
Carnauba, No. 1	lb.	.32	.33
No. 2, yel.	lb.	.31	.32
No. 3, chalky	lb.	.19	.21
Ceresin yellow	lb.	.36	.38
Paraffin, ref. 125-130	lb.	.03⅜	.04⅛



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WOBURN DEGREASING COMPANY
OF NEW JERSEY
CHEMICAL DIVISION
HARRISON, NEW JERSEY

PATENTS FOR SOAP ARTICLES

(*From Page 29*)

for a transparent cake of soap having printed advertising matter embedded in it. The printed matter is enclosed in an envelope of cellulose sulfate before being embedded in the soap.

Patent No. 1,828,361, Oct. 20, 1931, to C. Crary discloses a cake of milled soap having bores extending from opposite portions of the cake, the bores being of small diameter but of sufficient depth and number to render the cake buoyant, but not extending entirely through the cake. The holes are bored so as to form some distinctive name or trademark in the cake of soap.

Patent No. 1,854,235, April 19, 1932, to E. S. Stoddard is for a cake of soap having an outer shell of trisodium phosphate designed to be used in dish washing machines. In use the phosphate first dissolves in the water to form a non-colloidal alkaline detergent solution and then the soap goes in solution providing a foaming detergent. The shell of trisodium phosphate may be coated with gelatin so as to cause it to dissolve more slowly in the water.

Patent No. 1,867,494, July 12, 1932, to Buchner covers a container or bottle made from hard soap. The container consisting of several compartments has bath salts or other similar materials, and after being emptied can be used for washing purposes.

Patent No. 1,878,104, Sept. 20, 1932, to George W. Brooks describes a cleaning pad consisting of loose unspun metal fibers and unspun organic fibers impregnated with soap.

Patent No. 1,878,250, Sept. 20, 1932, to H. L. Primeau describes a cleaning article made from metal wool impregnated with a soap composition (66 per cent soap, 16 per cent fuller's earth, 7 per cent pumice, also an oil and binder). The formed article is coated with a skin of viscose.

Motorists who have to make emergency repairs on the road and thus soil their hands may be greatly interested in patent No. 1,900,609, March 7, 1933, to M. V. McDonough who applies to an externally ribbed glass water bottle a layer of soap. The motorist is thus provided with soap and water at all times.

Patent No. 1,981,249, Nov. 20, 1934, to S. Rosenblatt shows a cake of soap covered with a sheet of unvulcanized partially depolymerized thin pale crepe rubber. This rubber sheet is porous. When the cake is used in the usual manner lather is produced and the rubber sheet massages the skin.

Patent No. 1,979,411, Nov. 6, 1934, to H. F. Sands, incorporates sections of thick wood pulp paper in a cake of soap which are non-abrasive but exert a scrubbing action.

Patent No. 1,983,002, Dec. 4, 1934, to E. Reeves embeds in a cake of soap discs of celluloid carrying advertising matter. The tags are provided with flanges which serve to anchor the tags in the soap.

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PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Transparent Soaps

THE manufacture of transparent soaps has been described recently by Harold Silman in the *Soap, Perfumery and Cosmetics Trade Review* of London. Transparency in soap has a psychological value, as it suggests purity to the purchaser. Originally these soaps were made by dissolving a good grade of soap in alcohol. On distilling off 80 per cent of the solvent, the soap was left as a transparent gelatinous mass which was then perfumed and run into molds. Such a process is expensive and methods have been used for producing transparency by other means.

In studying the cause of transparency, the following considerations stand out. The presence of the solvent promotes saponification of the fats, and the more completely the fat is saponified, the greater will be its homogeneity and consequently its transparency. It has been shown that transparent soap is essentially in a supercooled state. If a piece of such soap is melted and allowed to cool quite slowly, it will become opaque, but rapid cooling will leave the transparency unaltered. All transparent soaps tend to lose this property on long heating. It has been found that the addition of a small quantity of petroleum jelly will prevent the development of opacity.

In manufacture it is therefore necessary to aim at rapid cooling of the finished soap, high soap viscosity, and the presence of substances which will retard the formation of crystals and fibers. The alcoholic process gives a very good soap and is still used for a few brands, but other methods have been generally adopted because of cheapness. Castor oil, glycerine and sugar are the main substances used for producing transparency.

Three classes of fats are used,—castor oil, coconut oil and tallow. Castor oil plus glycerine gives the highest degree of transparency, but is lacking in hardness. Coconut oil increases the solubility of the soap but a high content of this tends to make the soap soft, give it a somewhat unpleasant odor, and have an irritating effect on the skin. The softness of these ingredients can be counteracted to a certain extent by addition of soda ash.

Tallow is the cheapest material for hardening and giving body to the soap. It is opaque, but in the presence of 20 to 25 per cent of sugar, a considerable quantity of tallow can be used. It is essential in the sugar process that saponification be carried to completion with a slight excess of alkali.

In selecting oils and fats, care should be taken to have good quality. Tallow and oils must be clean and light of color. Glycerine, caustic soda and sugar solutions should be well settled and contain no suspended matter or mineral impurities. The presence of these would provide nuclei for crystallization of the soap and must therefore be avoided. Too much soda ash is also objectionable.

Transparent soaps can be cold made cheaply and efficiently with the sugar process. From the point of view of transparency, they are better than glycerine soaps, although in other respects their quality is somewhat inferior. Typical formulas are as follows:

	I	*II*	*III*
Edible tallow	54 lb.	72 lb.	60 lb.
Coconut oil	44 lb.	62 lb.	74 lb.
Castor oil	54 lb.	90 lb.	76 lb.
Caustic lye	84 lb.	134 lb.	108 lb.
	37.7° Be.	35° Be.	38° Be.
Sugar	48 lb.	60 lb.	60 lb.
Water	26 lb.	60 lb.	64 lb.
Soda ash solution (36° Be.)	—	24 lb.	30 lb.

The tallow and oils are melted together and allowed to settle. They are then strained into a steam-jacketed crutcher and heated to 130° F. Caustic soda lye, after careful settling, is run in at room temperature under thorough agitation. The mixture is allowed to stand for 1 to 1½ hours for spontaneous saponification. The temperature rises to about 180° F., by means of steam if necessary, until combination begins. Dissolve the sugar and soda ash in water, heat to 180° F. and add after saponification is complete. When the mass is homo-

geneous, stop crutching and let stand for two hours. A froth will rise to the surface, which should be removed.

Sample the clear dark liquid. If the soap is firm but opaque, add more sugar and soda carefully, avoiding an excess. Softness shows the presence of too much water, which may be corrected with a little more soda ash. Graining owing to the presence of too much soda can be rectified by the addition of castor oil until the soap is closed. The soap is generally dyed at this stage, and after perfuming, run into frames and cooled rapidly. Good drying improves the appearance. After slabbing, the soap should be allowed to stand as long as practicable. In molding, allowance is made for shrinkage during drying. To avoid cracking, it is cut as nearly as possible to size. Sometimes the soap appears slightly turbid when freshly cut, but this is soon changed by short exposure to air.

Transparent soaps containing glycerine are more expensive to manufacture than the castor oil-sugar type. The use of alcohol tends to improve the quality, but glycerine alone can be used as follows:

Coconut oil	54 lb.
Edible tallow	56 lb.
Castor oil	56 lb.
Glycerine	25 lb.
Caustic lye (38° Be.)	93 lb.
Cane sugar	50 lb.
Water	50 lb.
Soda crystals	5 lb.

The stock is heated as above to 130° F. and strained into a steam-jacketed pan. Glycerine is added and then lye. After crutching for 1 to 1½ hours, the sugar solution containing the soda is heated to 168° F., poured in, and the whole again crutched and allowed to stand for 1 hour. The mass is then ready for testing, framing and cutting.

Glycerine in soap is said to be beneficial to the skin, but its hygroscopic nature means that its use must be carefully regulated or sweating of the finished article may result. A transparent glycerine and borax medicated soap may be prepared similarly from the following:

Coconut oil	20 lb.
Tallow	20 lb.
Castor oil	10 lb.
Caustic lye (36° Be.)	28 lb.
Sugar	18 lb.
Glycerine (28° Be.)	12 lb.
Water	1½ gal.

The fat is melted and the lye stirred in immediately. The whole is heated to 168° F. to start saponification. When this is complete, the warmed glycerine and sugar solution is stirred in and the whole allowed to stand for some time. Crutch in 1¼ gallons of 96 per cent alcohol, together with ½ oz. of cardinal red, ¼ oz. of lemon yellow, and 2 lb. of finely powdered borax. When cooled to 136° F., perfume with 3 oz. of bergamot oil, 3 oz. of lavender oil and 1 oz. of citronella oil.

The alcohol process gives the best type of soap judged by all-round properties, but its expense limits its use. By replacing part of the alcohol with glycerine, the expense is reduced considerably since no solvent recovery is necessary. Two formulas for this are:

	I	*II*
Coconut oil	60 lb.	56 lb.
Tallow	30 lb.	56 lb.
Caustic lye (38° Be.)	45 lb.	56 lb.
Alcohol 95%	30 lb.	45 lb.
Glycerine	30 lb.	23 lb.

The oil and tallow are melted together at 130° F. and strained into a steam-jacketed pan. Glycerine and caustic soda are poured in and the mass well stirred. After 1 to 1½ hours, saponification should be complete and the soap tested, framed and cooled rapidly.

As the color of a transparent soap cannot be rigidly controlled, the degree of yellowness varying with many factors, such soaps are generally dyed to a standard color by the ues of a small quantity of water-soluble dyestuff. The most suitable color is amber, which will enable a standard article to be turned out. The color should be present in only a minute amount so as not to stain clothing. It must be stable to light. Diazamine, paramine, or chrysoidine compounds are the most suitable.

The cold process soaps described above require considerable time to make. Some manufacturers prefer a more rapid boiling process. A good quality soap can be made by the following formula:

Tallow	50 lb.
Coconut oil	110 lb.
Castor oil	40 lb.
Caustic soda (37.7° Be.)	100 lb.
Denatured alcohol	120 lb.
Glycerine	40 lb.
Sugar	40 lb.
Water	4 gal.

The oils are mixed together and the soda lye and spirit added. While stirring thoroughly, the mass is kept at about 180° F. for 3 hours, when saponification occurs. The temperature should not be allowed to rise too high, or the alcohol will be driven off. The other ingredients are added and the soap finished by coloring and perfuming.

As with other toilet soaps, the perfume should be stable in the presence of alkali. Fixatives are necessary and these must be chosen with the transparent nature of the product in mind. The amount of perfume is usually 1 or 2 per cent. Careful blending is necessary. A small mill is useful for trying out new blends.

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Standards for certain types of soap manufactured in India have been suggested: "Soap Mixture" is to contain not less that 53 per cent of fatty plus rosin acids, of which not more than one-third shall be rosin acids and not more than 10 per cent filling material, the nature of which is to be stated on the label. "Abrasive Soap" is any preparation of soap and abrasive, to be specifically labelled. "Carbolic" soap must contain at least 3 per cent of carbolic acid or its homologues, such as cresylic acid, and not more than 0.5 per cent of coal tar hydrocarbons. "Soft Soap" is to contain at least 40 per cent of fatty plus rosin acids, of which not more than one-third shall be rosin acids and not more than 3 per cent silicates. *Coconut Research Scheme, (Ceylon). Bull. No.* 1, 41 (1934).

Discoloration of Potash Oil Soap

Causes and Prevention When Packed in Tin Containers

THE discoloration of potash vegetable oil soaps when packed in tin cans and tin lined pails and drums is quite common and frequently its a puzzle to manufacturers owing to the unexplainable manner and conditions under which it take place. Sometimes the same batch of soap packed in the same lot of cans will show a wide variation, some discoloring a great deal, some slightly, and some not at all. A few manufacturers have studied the problem chemically and worked out a solution. Others are still puzzled by it.

A rather unusual case of this type has recently come to light. The case is unusual in that one manufacturer called upon a *competitor* to aid him in solving the problem. The competitor,—strange as it may seem,—gave him the benefit of his experience. The firm called upon in this instance was the Kranich Soap Company of Brooklyn. The name of the other firm has, of course, been held confidential. But copies of the correspondence, which it is pointed out by Herbert Kranich, president of the company, may have some interest for other firms with a similar problem, have been given to us for publication. They state in part:

"We are writing to you to know if you can give us any assistance in a problem we have in the manufacture of a neutral potash vegetable oil soap. The following is the trouble that we are encountering: Our soap when it is finished runs an alkalinity anywhere from .012 per cent to as high as .06 per cent. All of the soap made in this manner is packed in tin cans of various sizes. Some of this soap will remain in cans for as long as six months without discoloring the can or turning it dark. Other soap when packed in the cans inside of several days has started to blacken and eat the tin. We thought this was due to excess alkali but the check-up on this proves that it does not seem to be the case of higher alkalinity,—in fact, batches of soap made running .012 per cent alkalinity have discolored tin where batches of soap runing .04 per cent and as high as .14 per cent have not affected the tin in the least. The method of making this soap is the same each time, the moisture has been within 2 per cent on every batch. Some of the can companies, whose cans we use, have suggested that it may be the solder left in the can that causes this difficulty with one batch as against another, but this cannot be so for the simple reason that the same shipment of cans made at the same time have discolored with one batch of soap and not with another.

Knowing that you are manufacturers of high quality soap of this type, I thought that you may have some experience in this product that we do not have when it comes to packing in tin. I would appreciate it very much if you do have any knowledge or any ideas as to how to locate the trouble here, if you would give us this information and assist us on the problem."

The first letter from Mr. Kranich stated: "The problem mentioned in your letter of December 31st is of common occurrence and has caused many headaches to those packing potash vegetable oil soap in tin cans. The reason why would detail a lengthy chemical discussion and you are interested primarily in knowing how to overcome it. The solution to the problem is the utilization of a properly protected coating placed on the inside of the can before putting in the soap. The can may be lacquered or may be rubbed with a medium melting point petrolatum or may be coated with some synthetic resin product. Any of these methods will eliminate 90 per cent of your trouble. The black that you mention is a finely divided mixture of metallic tin and tin oxide with traces of bismuth brought about by electrolysis when the soap comes in contact with the tin."

The reply to the above letter stated: "Your suggestion is one that we have been considering with reference to the coating of the inside of the cans to overcome our difficulty. As you say, that should certainly get us out of our difficulty and I am sure that is what we will come to. What I had paramount in my mind when I wrote was to learn if you or anyone else knew the cause for this trouble,—in other words, why it happens on certain batches of soap and not on others, when the soaps check out on analysis so closely, both in moisture, combined alkali, free alkali, etc."

The explanation chemically by Mr. Kranich was as follows: "The black on the inside of your tin can is brought about by the formation of black monoxide of tin, and also by the formation of black metallic tin in infinitesimal quantities.

The tin cans you purchase are made from what is known as coke plate tin rolled sheet steel stock. The tin coating on this sheet steel is never uniform when examined microscopically and consequently, small fissures show up the bare steel which is responsible for a chemical reaction when soap containing free caustic potash is placed in contact with this surface. No matter how carefully prepared, the tin sheet contains on the surface, certain traces of tin oxide. The free alkali in your soap will change this by reduction from stannic oxide to stannous oxide. This latter is known as black monoxide of tin and further reduction in turn reduces this to black metallic tin.

These reductions are chemically brought about by electrolysis due to the fact that at the surface of the tin you have metallic iron, metallic tin, moisture from your soap and free alkali. These acting together by electrolysis develop small traces of hydrogen which

is the reducing agent causing the thin film of stannic oxide to be reduced to the monoxide and still further to black metallic tin. This condition will occur no matter what percentage of free alkali is present in your soap just so long as conditions on the surface of the tin coating placed on the sheet steel allow the setting up of an electro chemical action. Where the coating is uniform with no breaks, there should not be any discoloration. Where the coating is not uniform, you will most of the time, have a black discoloration and if the condition is very bad, you may have iron rust development. You cannot blame the soap. The cause of the trouble is the tin coating. The same effect will take place even if there is no free alkali present. Soap in itself, has a definite hydroxyl ion concentration.

Our experience has been that where we have used No. 1 charcoal tin dipped stock that even here we have had this discoloration. As a matter of fact, pure block tin on the inside of drums and pure neutral shampoo placed in those tin-lined drums has developed a mixture of slimy white stannic oxide sufficient in amount to rub off with the finger, and on longer standing, this slimy material turned to black sludge. (Analysis showed that the sludge contained stannic oxide, stannous oxide and metallic tin.)

Another experiment definitely proved to us that when we put liquid soaps colored with aniline dyes in the tin cans or drums that this electro chemical action and hydrogen development caused some dyes to fade out and the soap in turn to become cloudy. The precipitate on analysis showed that metallic tin soap was formed."

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A number of compounds have been tested for their antioxygenic activity toward lard. Besides pyrogallol, hydroquinone and pyrocatechol, hydroxyhydroquinone and apionol are good antioxidants. The 1,3- and 1,8-naphthalenediols are effective while the 1,4-derivative is inactive. Esterification and alkylation of one or more of the hydroxy groups destroys or greatly reduces the antioxygenic activity. Side chains on the benzene nucleus reduce the activity of hydroquinone. The quinones possess slight activity. Maleic, tartaric and citric acids and 1,4-cyclohexanediol and saligenin are inactive. H. S. Olcott. *J. Am. Chem. Soc.* **56**, 2492-3 (1934).

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The amount of substitution of the alkali ion of soap by other alkalies in aqueous solution was determined for sodium and potassium soaps of lauric, palmitic, stearic, oleic, ricinoleic and abietic acids. The degree of substitution depends upon the soap solubility. Concentration has little effect. Daniel Mangrane. *Anales so. espan. fis. quim.* **32**, 893-6 (1934).

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Pure lecithin is obtained from soybeans by washing the aqueous phosphatide emulsion with high percentage alcohol and freeing the residue from the alcoholic liquor. The remaining alcohol and water are evaporated off under reduced pressure. Hanseatische Muehlenwerke A.-G. German Patent No. 602,637.

BLEACHING OILS BY ADSORPTION

Active earths, carbons, and silica gels are used to remove color from oils and fats. Natural neutral earths are used where the presence of free fatty acids is undesirable. Some adsorptive carbons have a slightly acid reaction, while those activated by means of gases have a slightly alkaline reaction. These facts must be considered in making the choice of decolorizer. In practice, a mixture of two materials such as activated earth and carbon is commonly used.

The following shows the best temperatures and proportions of bleaching agent to use with different oils:

	Temperature ° *C.*	*Per Cent of bleaching material*
Peanut oil	80-90	½-2½
Cottonseed oil	90-95	1-4
Coconut oil	90-95	½-2
Olive oil	80-90	1-2½
Palm oil	90-95	10-15
Palm kernel oil	90-95	½-2
Lard	90-95	½-4
Tallow	90-95	2-5

The proportions of carbon to earth vary between 1 to 20 and 1 to 4. The table is only general and in practice it is best to determine temperatures and proportions by experiment. F. Smit. *Oil and Colour Trade J.* **87**, 392-3 (1935).

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ZINC CATALYSTS IN FAT SPLITTING

A number of catalysts were tested for their activity in hydrolyzing soybean oil with 30 per cent of water and 1 per cent of catalyst at 8 atmospheres for two hours. Calcium oxide, zinc oxide and magnesium oxide are very active. The fatty matter obtained with zinc oxide has much less color than that obtained with the other two oxides. Lead oxide is also a good catalyst and gives very pale fatty products. Among the alkalies, the sodium compounds are more effective than the potassium compounds. A number of magnesium oxide catalysts which were prepared by calcining magnesium carbonate at various temperatures were tested in the same way. When calcined for two hours, the catalytic activity of magnesium oxide increased with the temperature up to 800° C. and decreased above this temperature. Below 800°, the activity increases with longer time of heating.

Various kinds of zinc white were also tested for catalytic activity. "Raw" zinc oxide manufactured for paint making showed the highest activity, being best when fresh. Addition of metallic zinc did not increase the activity of the oxide, but did cause an improvement in the color of the fatty acids. D. Nakae *et al. J. Soc. Chem. Ind.*, Japan **37**, Supplemental binding 583, 584, 645-6 (1934).

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Rancidity of oils and fats and the cloudiness of oils, are inhibited by adding a small percentage of crude cottonseed oil. The latter may be deodorized first by blowing with steam without impairment of its anti-oxidizing power. Donald P. Grettie and Roy C. Newton. British Patent No. 415,205.

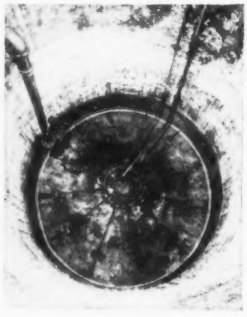
What's Your Estimate of this pipe's AGE?

Welded Monel Metal tubing cross-sectioned to show excellent condition after 8 years of use in heating coils in soap kettle plant of Lanman & Kemp—Barclay & Co., Morsemere, N. J. Note the complete absence of corrosion in this caustic soda, salt, fatty acid, steam service.

Section of welded Monel Metal tubing and cast Monel Metal elbows removed from soap kettle at plant of Lanman & Kemp —Barclay & Co., Morsenere, N. J., after eight years of service. Note the excellent condition of the Monel Metal after these years of service in soap kettle.

FACTS:

It *is made of* Monel Metal; *used in a soap plant, in contact with caustic soda, fatty acid, salt and steam.* How *many years do you figure it has served?*



Interior of one of six soap boiling kettles showing Monel Metal piping, steam spider, legs, clamps, swing suction line, swing pipe, fittings, etc All equipment designed and installed at plant of Barclay & Co., Inc., Morsemere, N. J., in 1924 by Wurster & Sanger, Inc. Chemical Engineers of Chicago, Ill.

IN 1925 the Monel Metal piping installed in this New Jersey soap plant was still a large scale experiment.

It made up the steam spiders and swing suction pipes in six kettles.

At that time it had lasted a year in service without showing any signs of corrosion or failure. The experiment looked good.

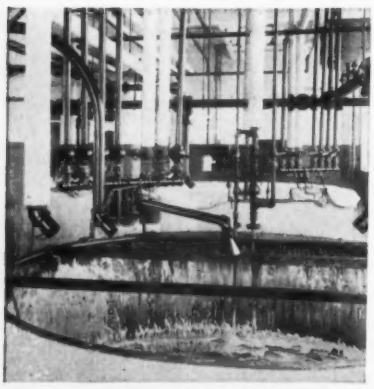
In 1933 sections of the pipe were cut out and fittings removed. Reason: to check up on the installations *after 8 years!*

Still sound and serviceable

Eight years of corrosive attack by caustic soda, fatty acids, and salt. Eight years of erosive attack by steam. Eight years of hard, continuous wear. And of all this the Monel Metal shows no evidence whatever.

As far as any chemical, physical or mechanical tests disclose, the Monel installation is just as sound as it was 8 years ago and apparently good for 80 more!

Monel Metal, eternally rust-proof, stubbornly resistant to corrosion, and as strong and tough as steel stands up indefinitely in contact with materials that would quickly destroy any metal less durable.



General view showing Monel Metal piping in one of the six process kettles at Barclay & Co., Inc., Morsemere, N. J.

Many uses in soap plants

The record of long life shown on this page is typical of the service record of many other Monel Metal installations in soap plants... boiling kettle linings, crutcher parts, plodder chutes and hoppers, parts of almagators and many others.

The advantages offered by Monel Metal are also obtainable in large pieces of equipment by using Nickel-Clad Steel. This "heavy duty" metal makes practical such corrosion-resisting installations as soap boiling kettles, crutcher bodies and soap cooling frames.

Information, covering both Monel Metal and Nickel-Clad Steel, is available. Write, asking for any details you may desire.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York, N. Y.

Monel Metal

Monel Metal is a registered trademark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

ON PRODUCTS AND PROCESSES

Soap is made by saponifying a fat with an excess of alkali, adding about 1 per cent of agar-agar or gum tragacanth, about the same amount of an extract of laurel berries, and evaporating the product to dryness. Castor oil may replace whole or part of the fat, and a part of the alkali may be used in the solid state. Such products are able to absorb several times their weight of water and still remain solid. Mohamed T. Khorassany. Austrian Patent No. 138,923.

Special soaps containing gelatinous silica are made by treating in the hot a soap containing sodium silicate with a solution of phosphoric acid in such amount as to react with the whole of the silicate. "Les Savons Nouveaux" compagnie Sapoflor. French Patent No. 770,910.

Since lecithin is being produced from soya beans on a fairly large scale, it may well find use as an addition to toilet soaps. It is already used as an ingredient in skin creams. As it will reduce surface tension and is a good emulsifier, it should have a detergent value. Lecithin was formerly obtained chiefly from egg yolk and was rather dark in color. That obtained from soya beans is much paler. It may be bleached by treatment with hydrogen peroxide. The use of dibenzoyl peroxide for this purpose has been patented. *Perfumery and Essential Oil Record* **26**, 33 (1935).

Soaps are made by saponifying the oil in the cold by a caustic soda lye of 10-50° Baume, then by a caustic potash lye which is added some seconds after the soda lye. The theoretical amount of the lyes is about 40 per cent of caustic soda and 10 per cent of caustic potash. Saponification lasts about 10 minutes. Refining lyes of salt and soda ash are added afterward. Paul J. Beyer. French Patent No. 767,931.

The composition of bubbles from mixed soap solutions has been studied. The systems dealt with were sodium behenate mixed with sodium laurate, sodium arachidate with sodium laurate, sodium behenate with sodium myristate, and sodium behenate with sodium palmitate. Moist air, free from carbon dioxide, was passed into the soap solution at 70° and the bubbles collected in dilute hydrochloric acid. The fatty acid composition of the froth and the residual solution were determined. The bubble films were rich in the higher soaps. This corresponds to the preferential adsorption at the free surface of the less surface-active component of mixed soaps. Jiro Mikumo. *J. Soc. Chem. Ind., Japan* **37**, Suppl. binding 591-3 (1934).

The grain size of granular materials such as soap powders, obtained by pulverizing molten substances which are solid at room temperature, is reduced by spraying the molten material to produce a subdivided form. Further subdivision is achieved by conveying them pneumatically through a tubular conduit so that they are subjected to frictional action against the walls of the conduit. Eduard F. van Suchtelen. British Patent No. 417,449.

A colorimeter has been devised in which the color of oil is compared with that of a solution of inorganic compounds, such as sodium bichromate, chromic sulfate, chromic acid, ferric chloride, Hanus solution, etc. The results are reported in terms of cc. of water plus cc. of various standard solutions. Thus at 45° C. one oil matched a solution of 70 cc. of water plus 10 cc. of Hanus solution. C. Stiepel. *Allgem. Oel- und Fett-Ztg.* **31**, 443-5 (1934).

When determining "free and neutralized fatty acids" in sulfonated oils which have been more or less completely neutralized with ammonia, it is necessary to remove the latter before carrying out the various titrations. This can be accomplished by repeatedly making an alcoholic solution of the sample alkaline to phenolphthalein and then repeatedly boiling. A second method is to dissolve the sample in an ether-amyl alcohol mixture, render acid to methyl orange with hydrochloric acid, and then extract with a saturated salt solution. The latter method seems to give more reliable results with sulfonated castor, olive and bone oils. The ether-amyl alcohol mixture is also advantageous when determining inorganic sulfates in sulfonated oils. C. Riess. *Fettchem. Umschau* **41**, 199-200 (1934).

The presence of as little as 5-10 per cent of fish oil in fat mixtures can be detected by treating a 3 cc. sample, dissolved in a mixture of 3 cc. of acetic acid plus at least 4 cc. of chloroform, successively with 20 drops of a bromine-chloroform mixture and 10 drops of a solution of iodine bromide in acetic acid. A rapidly appearing green color indicates the presence of fish oil. In some cases a further addition of 10-20 drops of the reagents may be required. E. I. Better and J. Szimkin. *Fettchem. Umschau* **41**, 225 (1934).

An oily vegetable lecithin which is practically water-free is obtained by treating the crue material with dibenzoyl peroxide. Hanseatische Muehlenwerke A.-G. German Patent No. 602,933.

A new rapid thin-film method has been developed for fatty acid distillation. On entering the vaporizer the preheated fatty material is spread over a large vertical surface and the heat of vaporization quickly supplied, partly by superheated steam and partly by radiation from a surface heated by hot oil, whose temperature can be readily controlled. This arrangement avoids overheating. An efficient plant handling as little as 50 kg. of fatty acid per hour can be built. G. Knigge. *Seifensieder-Ztg.* **61,** 668-9 (1934).

SHAVING SOAPS

(*From Page* 25)

17 shaves is entirely too few compared to a month or more of use from the average tube of shaving cream. Accordingly, he recommends a jar,—at least a half-pound jar,—rather than even the largest size tube as the correct container.

However, if a tube be employed, it need not be of tin as in the case of shaving cream. Aluminum tubes which are considerably cheaper have been found entirely satisfactory for just about any latherless shave formula. In fact, tin-coated lead tubes now under test show some promise and may prove entirely satisfactory.

The necessary attributes for a good product include:

1. It must spread easily.
2. It must soften the beard.
3. It must lubricate the skin and razor during shaving.
4. It must remain of soft consistency on the face during shaving and in the tube indefinitely.
5. It must rinse from the razor and from the face readily. Further, it must not stop up the wash-stand waste line.
6. It must be agreeably perfumed.

Further, a survey discloses some enthusiasts use this type in winter, but go back to shaving cream in summer because the former soils the collar and necktie with subsequent perspiring. Accordingly it should rinse from the face readily and thoroughly. As for a name, "brushless" appears to be a better name than "latherless" if for no other reason than that it is the more descriptive term. This lessens any chance for confusion, particularly when the manufacturer's name and trade-mark appear on a shaving cream as well as on a cream of this type.

Brushless Cream Formulation

SOME years ago a cosmetic merchandiser walked into the laboratory and asked as he pulled from his pocket one of the first latherless shaves on the market. "Can you analyze this?" After squeezing some onto the writer's forearm, the reply was "It is probably easier to duplicate than to analyze." This writer rubbed 3 per cent of mineral oil into his pet vanishing cream in a mortar, and presto!—a reasonably satisfactory latherless shave. In a word, it is a ready-made, permanent lather heavily superfatted.

In its simplest form then latherless or brushless shaving cream is: 14 to 20 per cent stearic acid, sufficient potassium hydroxide, ammonium hydroxide or triethanolamine to saponify 20 to 40 per cent of the stearic acid present; 5 to 12½ per cent of glycerin; 2 to 5 per cent of white mineral oil; perfume sufficient and water to make 100 per cent.

The above is essentially a permanent prepared soap lather superfatted with stearic acid. With less than 14 per cent stearic acid, the cream lacks body while with over 20 per cent, the cream is too heavy bodied. Saponifying less than 20 per cent of stearic acid makes the cream with the added mineral oil unstable, while saponifying more than 40 per cent makes the cream hard to apply evenly and in consistency it is "gooey."

A formula that is at once workable and may be adjusted as indicated below, or to suit individual needs or whims follows:

Brushless Shave

	Per Cent
Stearic Acid	17.0
Glycerin	10.0
Potassium Hydroxide (100%)	1.0
White Mineral Oil	2.5
Perfume	.75 or less
Water	68.75
To Make	100.0

The *modus operandi* is simple. Heat the stearic acid with the mineral oil to 160° F. Dissolve the glycerin and potassium hydroxide or add its equivalent of any available Baume concentration to the water and heat to 150° F. Run the former into the latter in a thin stream with agitation. Continue agitation until cool and add the perfume. A pony mixer or an agitator kettle are equally convenient for mixing. The cream becomes very heavy bodied as it cools so the agitators must be of sturdy construction.

Variations of the above formula include: The potassium hydroxide may be replaced with an equivalent amount of ammonia, or, triethanolamine or replaced in part with borax. The mineral oil may be replaced in whole or in part with castor oil or corn oil and the glycerin may be replaced with ethylene glycol. Menthol up to ¼ of a per cent may be added for its cooling effect or phenol (carbolic acid) may be added in about 1/20 per cent concentration for its desensitizing action on the nerve endings resulting in a more comfortable shave.

If one wants a ready-made formula and is not averse to employing proprietary ingredients, the following is typical of a reliable manufacturer's recommendations:

Proprietary Formula No. 1

	Per Cent
Stearic Acid	20.0
Cetyl Alcohol	1.10
Mineral Oil	2.00
Ethylene Glycol	1.50
Triethanolamine	1.65
Borax	1.85
Water	71.40
Perfume	0.50
To Make	100.00

Procedure: Melt the stearic acid, add the cetyl alcohol and mineral oil bringing the temperature to about 73° C. Put the borax and triethanolamine into water and bring to a boil. Then add the melted fats with rapid agitation. When the temperature drops to about 40° C. add the perfume mixed with the ethylene glycol.

The following formula was made up in plain tin tubes and submitted to a testing group along with a nationally advertised brushless shaving cream enjoying large sales, which had been transferred to plain tubes of same size. Both carried identical direction labels. The returned questionnaires proved this formula to be a 7 to 2 choice over the nationally advertised product in this blind test.

Brushless Shave

	Per Cent
Stearic Acid	20.00
Glycerin	5.00
White Mineral Oil	5.00
Ammonia (26% Concentration)	2.20
Zinc Oxide	1.50
Phenol	.05
Perfume	.75
Water	q. s.
To Make	100.00

This product was made according to the above directions but was subsequently milled on a paint mill to obtain a creamy consistency and to uniformly distribute the zinc oide.

Shaving cream and brushless shave for that matter cannot be formulated, tubed and merchandised overnight. For no apparent reason, things have an almost uncanny habit of going wrong. Witness the enamel of the tube discoloring or the cream hardening to a point where it forces out the bottom instead of squeezing amicably out of the top. Notice the salts (of tin probably) standing out on the cap, the opening and the head of the tube, even on big sellers if they warm the dealer's shelf too long. Pin holes eaten through the tube making it a veritable sieve when squeezed are not uncommon. Discoloration, separation and off-odor, a wrecking of the perfume, is to name only a few more.

There is no substitute for the age test to confirm that the formula, the odor and the container are right. It can be speeded up somewhat by carrying samples for a few weeks in a refrigerator and also in a warming chamber (a box with an electric bulb or suitable size is its humblest form) at 120° F. Thus the cream's behavior in winter and in the sun caressed dealer's window in summer can be anticipated.

Liquid Shaving Soap

THE questionnaires from the testing group showed not a single user of liquid shaving soap. It is new, it is different, and it is a question whether it will win acceptance. The one liquid shaving soap making a real effort to get going is cleverly compounded, uniquely packaged, carries a good brand name and enjoys good sponsorship. That it claims to be made of a branded castile soap (titre by analysis 22.3 to 26.7 degrees) yet the titre of which runs 41.5° C. on analysis, is neither here nor there.

To compound a liquid shaving cream calls for considerable compounding skill. One can hope to get little, if any, above 20 per cent fatty acid in complete and stable solution, even with a high alcohol and high glycerin content. The fats recommended are tallow and coconut oil, in the ratio of about 3 to 2 to 5 to 2. Obviously the lye must be exclusively potash.

Resort may be made to sugar or tetra sodium acid pyrophosphate to retard formation of sediment. The lathering qualities may be enhanced with sodium laurvl sulfate. Such sediment (hard soap) as forms may be obscured by using an amber or blue bottle, such as some shampoo manufacturers employ for the same reason. There is yet ample time to take liquid shaving soap seriously.

Label Claims and Directions

EVERYONE has his own ideas in the matter of directions and he may couch them in the simplest language or resort to "dermutation," "greater lubrication," "wilted whiskers," "hydrolysis" and other eight-dollar expressions. Some manufacturers so occupy the container and carton with claims and catch phrases as to leave no room for directions whatever.

That directions are required was confirmed by the testing group of 252, 3 of whom stated "your shaving cream sure won me away from the mug." The explicit, simple directions on the tube undoubtedly helped make the converts. As for the "hooey", — an atmosphere of quality and uniqueness must admittedly be built up to lift it out of the commonplace, but it must sell the product, not confuse the prospective user.

In the maze of claims and counter-claims, one suggestion is offered, — preface the directions whatever they may be with the homely expression "wash the face thoroughly before shaving." Just between ourselves, that will do more to get the user off to a good start than any amount of "hooey" and any number of catch phrases or confusing six-syllable words. It will insure that street dust, the stuff that dulls the razor blade, is removed and that soapy water, the stuff that really softens the beard, is on the face the maximum length of time.

In conclusion, it is hoped that this informal discussion may give the manufacturer of shaving soap in either of its forms a new slant or a different approach to one or another of his problems. To the skilled soap maker considering the addition of shaving soap of either kind to his line, may he go into it just a bit more intelligently and with a product worthy of his good name. The reward well repays the effort, that is, if he uses sufficient of the other essential ingredients, namely, printer's ink, radio time, dealer helps, personal sales contacts, and any and all others at his command.

A deposit of an abrasive mineral similar to soapstone has been discovered near Big Eddy, Oregon, which will serve as the principal ingredient in a soap powder to be manufactured by a concern headed by W. J. Seufert.

DEO-BASE

Reg. U. S. Pat. Off.

Insecticides in 1935...

1935 will undoubtedly see the almost universal use of insecticides free from objectionable odor.

As time goes on, insecticide buyers are becoming more particular on the subject of kerosene odor . . . they prefer not to use those insecticides which leave a repulsive odor of kerosene. If you were using kerosene as a base for your insecticide, why not plan now to switch to a base free from objectionable odor for your 1935 season?

DEO-BASE is the ideal base for liquid insecticides . . . its complete freedom from kerosene odor assures your finished product ready acceptance by housewives, hotels, bakeries, dairies, manufacturers of food products . . . wherever the tell-tale odor of kerosene sprays is found objectionable.

L. SONNEBORN SONS, Inc.

Refiners of White Oils and Petrolatums

New York Office
88 Lexington Avenue

Refineries { Petrolia, Pa. / Franklin, Pa.

Chicago Office
820 Tower Court

SANITARY PRODUCTS

A Section of "SOAP" Dealing with

INSECTICIDES • DISINFECTANTS • EXTERMINATING
FLOOR PRODUCTS • SANITARY SUPPLIES • MOTH PRODUCTS

NOSE APPEAL

NEWEST REQUIREMENTS FOR INSECTICIDES.

◆ ◆ ◆

You may have an excellent spray, with greater killing power than your competitors, but . . . unless a pleasing Perfume is combined, the chances of success are minimized.

More than one large organization has taken active steps in this direction and materially improved the sales appeal of its product with MM&R KEROSPRAY and KEROMO BOUQUETS.

You have an opportunity to give your product a NEW sales talk . . . "Nose Appeal". A new year opens new fields for you . . . Let MM&R KEROSPRAY and KEROMO BOUQUETS help increase your sales.

PERFUME OIL KEROSPRAY BOUQUET
(Concentrated) MM&R
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PERFUME OIL KEROMO BOUQUET
No. 1 — 2 — 3

The most economical spray Perfume available. Convince yourself, send for sample.

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★ YARMOR CLEANING NEWS ★

A good disinfectant destroys germs. Properly formulated disinfectants containing the requisite amount of Yarmor Steam-distilled Pine Oil destroy seventeen disease-producing bacteria including those that cause cholera, typhoid fever, scarlet fever, diphtheria, and dysentery. A solution of one part of the disinfectant to forty parts of water is recommended.

Besides removing *all* dirt, liquid hand soaps containing Yarmor have a pleasing, piney fragrance. Yarmor also helps to prevent liquid hand soaps from becoming rancid.

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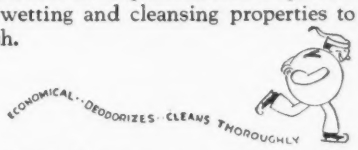

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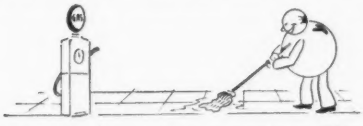

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Hercules Powder Company does not manufacture disinfectants, scrubbing soaps, metal polishes, hand soaps, deodorants, or cattle sprays. We do produce Yarmor Steam-distilled Pine Oil. Manufacturers and consumers will profit by investigating the advantages to be obtained by the use of Yarmor. Return the coupon below for further information.

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QQ-49

W A R N

The pyrethrum industry is still in its infancy with respect to scientific development. New facts are constantly disclosed. For instance, who knows that concentrated extracts retain their strength in all solvents? Again—it is known that pyrethrum can be purchased from abroad with a bona fide certificate of analysis accompanying the shipment, but when the shipment is received it may be found to contain 30 per cent less pyrethrins than are certified. Because the technique is so new, facts such as these are not generally known but they will be, eventually.

What means can the buyer of concentrated extract of pyrethrum use to protect himself? He must look beyond the price per gallon and the guarantee of strength. Unless these are made by a well established, secure, and dependable company they may be meaningless. He must also satisfy himself that the supplier has the knowledge, equipment and intent to supply material as offered.

The McLaughlin Gormley King Company brought buyers the *original* standardized concentrate of pyrethrum. Many insecticide manufacturers believe, and rightly so, that the research and the experience which enabled McLaughlin Gormley King to discover standardization now enables them to produce the best pyrethrum concentrate.

McLaughlin Gormley King Company would be the last to claim they know all about pyrethrum. But in all the maze of new developments they *do* know these simple facts which have been proved beyond any reasonable doubt.

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Pyrocide 20 retains its strength practically indefinitely under proper conditions of storage.

Pyrocide 20 assays at least 2.4% pyrethrins, the minimum pyrethrin content.

If Pyrocide 20 should cost slightly more per gallon, it might still be the lowest in cost *per unit of pyrethrins.* Pyrocide 20 is not "high priced".

Pyrocide 20 has been used longer, and by more manufacturers, than any other standardized concentrate.

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* * *

Pyrocide 20 is shipped in steel drums containing 15, 30, and 53 gallons from warehouse stocks in New York, Los Angeles, Minneapolis and several foreign cities. We supply pyrethrum flowers of known pyrethrin content in whole, ground, or powdered form.

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STANDARDIZED EXTRACT OF PYRETHRUM FLOWERS


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A heavy-bodied neutral cleaner. More efficient and absolutely safe for all surfaces. Approved by linoleum makers.

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Individualism isn't dead YET! Not by some 200 Fuld Private labelled products! They're packed under *your own brand*, sold under *your own name*, but they're backed by the technical and manufacturing superiority of Fuld Brothers. Handle a full line with pride and profit.

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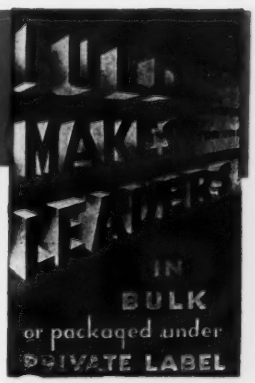

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Try Felton's economical neutralizing and perfuming agents.

They offer you maximum coverage, minimum cost, and the prospect of definite sale increase!

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Neutralize and perfume in one operation at a cost of approximately 3c to the gallon of Fly Spray.

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SANITARY PRODUCTS

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

The Editorial View

WITH the sudden death of Dr. Charles H. Peet, the American insecticide industry has lost an outstanding scientist and leader. To the results of his chemical and biological research on household insecticides, the industry owes a great deal. Active in the affairs of the National Association of Insecticide & Disinfectant Manufacturers as a member of its board of governors and the head of important committees, he gave unsparingly of his time. As co-author of the Peet-Grady Test, his name became internationally known, but he cared little for the plaudits of the commercial world. Rather he sought, and received, the esteem and respect of his fellow scientific workers. We know that there is not a person who knew him who has not been saddened by his untimely passing.

—♦—

IN some sixteen or eighteen State legislatures, there are pending so-called restrictive sales bills, that is bills which make illegal the sale of any drug, medicinal or allied product in any but a drug store. In Oregon, the restrictive sales bill has just become law. From California to New York, and from New England to South Carolina, bills of various degrees of restrictions are under consideration. A federal act of like type awaits introduction. The chief danger in most of these bills lies in the definition of a drug or medicinal product. Ordinarily the definitions are of such scope as to include all disinfectants, cattle dips, germicides, antiseptics, cosmetics, and some insecticides. This means narrowing down sharply the market for products in these groups if an appreciable number of these bills become law.

No doubt, there has been a concerted drive all over the country by retail druggists to divert a larger share of outside business to their stores by means of restrictive sales legislation. This legislation is usually presented under the guise of measures necessary to protect the public health. In fact, it is nothing more than the old retail druggist grab for more business. Elsewhere are listed the various bills and states where they are pending. It is urged upon all firms in those states to protest now against these bills,—and also for all manufacturers to ask their agents and dealers in those states to do likewise,—for it is only by numerous and widespread protests within the states that unfair restrictive laws of this kind can be kept off the books.

—♦—

INTO at least three State legislatures, practical duplicates of the Copeland Bill, the federal food and drug bill now pending before Congress, have been introduced. These have all the drawbacks of the federal bill as far as germicides, antiseptics, cosmetics, disinfectants, and the like are concerned. They apply to intrastate commerce and in each case the state board of health is the enforcement agency. To those who are familiar with the thousand and one complications in the enforcement of the present Food and Drugs Act by the Department of Agriculture, the hopeless task of equitable enforcement of any state act is quite obvious. As in the case of the drug store laws, these bills should be killed without ceremony. Manufacturers, distributors, and agents in Connecticut, California and North Dakota get in touch with your state legislators now!

National Association of Insecticide *and* Disinfectant Manufacturers

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Active—Open to manufacturers and wholesale distributors of disinfectants, germicides, deodorants, insecticides, liquid soaps, polishes, and allied products. Dues—$75.00 per year.

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NATIONAL ASSOCIATION OF INSECTICIDE & DISINFECTANT MANUFACTURERS

John H. Wright, Secretary

CHRYSLER BUILDING **NEW YORK**

Notes of the Trade

American Oil Co., Baltimore, Md., and the Vick Chemical Co., Greensboro, N. C., have been elected to active membership in the National Association of Insecticide & Disinfectant Manufacturers. The Federal Varnish Co., Chicago, manufacturers of floor specialties, have been elected to associate membership.

The Canadian division of McCormick & Co., with headquarters in Toronto, is starting an advertising campaign in the Dominion on McCormick insecticides.

A can label designed for the O-Cedar Corp., Chicago, for use on their self-polishing wax can, was a feature of the display of Harry H. Farrell in the Chicago Society of Typographic Arts exhibit. Mr. Farrell's display won third place in the showing.

Harry W. Cole, secretary of Baird & McGuire, Inc., Holbrook, Mass., who was confined to his home by illness since the first of the year following a relapse from a previous sickness, returned recently to his desk. He states that his file of unanswered correspondence grew to very large proportions during his illness and is anxious that delays in response be understood by his numerous friends in the trade.

Whittemore Bros. Corp., Cambridge, Mass., shoe polish manufacturers, advise that David W. Tibbott has succeeded John Challis as general manager of the company. Mr. Challis retired on account of ill health.

Boston Varnish Co., Boston, is introducing two new floor preparations, "Kyanize Vita-Cote" and "Vita Wax".

George M. Armor, vice-president of McCormick & Co., who has been mentioned as a possible Republican candidate for Mayor of Baltimore, has announced that he will not contest for this post.

Rochester Germicide Co., Rochester, N. Y., has purchased the complete assets of the International Germicide Co., also of Rochester. The latter company has been in business for the past five years headed by H. H. Given, president, doing business chiefly in Western New York State in general sanitary and janitor supplies.

Who makes "Moth-Foil"? C. H. Bayley, Division of Chemistry, National Research Council, Ottawa, Canada, would appreciate receiving the name and address of the manufacturer of this product.

Luckey Bowman, Inc., New York, advertising agency, has been appointed to handle the advertising of the Hyral Distributing Company, which is marketing "Hyral", a new dentifrice powder.

BED BUG LIQUIDS

MOST of the liquid insecticides on the American market which are sold primarily for use against bed bugs, do not evoke great enthusiasm among consumers. This is true both of small package liquids sold in retail stores and of the products sold in larger packages to institutions. In the trade, the term, "bed bug liquid" too often means some form of poor quality insecticide, ordinarily kerosene containing almost anything, to sell at a low price. Outside of the fact that they may kill the insect, these products as a class have so many drawbacks that their sale has become steadily less important in the insecticide field. Institutions, jails, factories, cheap lodging houses,—these have been the chief customers. There have been exceptions to the general trend, but they have indeed been few.

If there is one insect about which people are usually very reticent, it is the common garden variety of bed bug. For some reason or other, people seldom will admit that they have an infestation of bed bugs although these insects have been known upon occasion to invade the finest homes, the best hotels, the leading theatres, and the most sanitary lodging houses. The housewife or hotel keeper who might admit under pressure that there was a cockroach or two in the kitchen, will deny emphatically that a bed bug has ever been within a mile of their respective establishments.

For some reason or other, the bed bug is looked upon in the United States as something of which to be greatly ashamed, and something never to be mentioned in nice society. Flies, mosquitoes, moths, ants,—they are "respectable" insects. Even the repulsive cockroach is not considered as disrespectable as the bud bug. And the unusual feature of it all is that bed bug infestations are extremely common, as any experienced exterminator will testify. In view of this, the shame with which "nice" people connect them is somewhat unusual. However, this shame is an important psychological factor in dealing with their extermination and it has a distinct bearing on the character of insecticides which can be sold for use against them.

There are innumerable formulas for specific bed bug liquids. Although they are, as insects go, a comparatively difficult insect to kill, there are still a number of combinations which are effective against them. However, the psychological factor again becomes important. It is not so much a question of what will kill bed bugs as it is a question of what will people use which will kill them. A good bed bug killer which people will not buy and use because of some drawback such as bad odor, staining, corrosiveness, etc., might just as well not be on the market. People want a quick and, in most cases, an odorless death for their bed bugs.

The composition of any bed bug fluid is naturally determined to a great extent by the conditions under which it is designed to be used. Bad odor is not so frequently a drawback where the product is to be sold for use in jails, lodging houses, and free public institutions. For use in private homes, hotel bedrooms, theatres, the product should leave as little odor as possible and that should be a perfume of a character not ordinarily associated with an insecticide. For this reason, the usual kerosene solution of cresylic acid, although it is preferred by professional exterminators because of its effectiveness and its low cost, has very obvious limitations as to places where it may be used.

SOME of the products which have been called for in bed bug liquids include paradichlorbenzene, orthodichlorbenzene, carbon tetrachloride, nitrobenzene, pine oil, cresol, pyrethrum, rotenone, and others. Even a plain kerosene merely perfumed with methyl salicylate has been met. However, for practical use, manufacturers and exterminators have apparently narrowed down the formulas to the pyrethrum liquids and the cresylic acid fluids. This latter type is ordinarily nothing more than a one, or sometimes a two or three per cent solution of light refined cresylic acid in kerosene. The petroleum base used may vary all the way from a high grade deodorized oil down to a rank kerosene. For use with cresylic acid which in itself has a strong carbolic odor, there does not seem to be much point in paying the price for a deodorized oil. However, at the same time, it is perhaps best not to complicate the odor of the product with a low grade kerosene of bad odor. Good commercial oils such as are sold for fly spray manufacture are often used, although by some a lighter oil is preferred for bed bug fluids.

Cresylic acid fluids are often referred to as bed bug sprays. Under ordinary conditions of use, it is probably best not to spray a cresylic acid insecticide of any kind. Even though it be used in a room which is unoccupied there is some danger from inhalation by the operator. Cresylic is in reality not an acid at all, but a mixture of cresols, and is a close chemical relative of carbolic acid, and is also poisonous and corrosive. The application of the product to cracks and crevices of beds and other furniture, to picture mouldings, base boards, floors, etc., can be carried out quite effectively by use of large oil cans. Of course, a sprayer is faster, but frequently does not get enough of the liquid in the right places in order that all the bugs are actually wet by the fluid. This is particularly true of the small, cheap sprayers. Where a professional exterminator uses a high pressure hand sprayer or an electric sprayer, and is properly equipped to keep the spray out of his eyes, nose, and mouth, this is of course a different matter.

While discussing cresylic acid liquids, it is interesting to note the case of a large American city which recently drew up new specifications for various insecticides for use in its hospitals. After securing the views of several leading authorities as to the best formula for a liquid insecticide to be used chiefly against bed bugs, they selected a combination of three per cent cresylic acid in kerosene plus 5 per cent of a standard 20 to one pyrethrum extract. (2.15 g. pyrethrins per 100 cc.) This formula will undoubtedly do the work and do it well, and in the hands of a professional exterminator, should be safe to use. Such criticism of it as might be made would very probably point out the futility of using both cresylic and pyrethrum in the same product when in fact their properties make them suitable for two entirely different types of bed bug liquids. Either product alone will do an effective exterminating job and there is really no need to kill the bugs twice.

NOW there comes a consideration of bed bug fluids for use in private homes, hotels, theatres, and other places where the paramount problem is to kill the bugs and leave behind no telltale odor. This automatically eliminates cresylic acid liquids from consideration for these uses. It also should eliminate all liquids made from rank-smelling, off-color, and greasy kerosenes. It should also eliminate those liquids which are perfumed heavily with the common insecticide perfumes or with heavy, lasting bouquets.

A severe odor test in this case comes very close to narrowing the field of killing agents down to pyrethrum. There may be possibilities in derris or cube root extractives, but their incorporation in a product based on a petroleum solvent sometimes runs into complications. In the matter of the liquid vehicle, the same odor test eliminates most of the ordinary kerosenes, leaving those highly refined oils which are either completely or partly deodorized. For a finished liquid of highest grade which will leave behind no residual odor of kerosene and which is to be perfumed only very slightly or not at all, a fully deodorized oil is essential.

Most of the standard fly sprays are held out by the makers as suitable insecticides for effective use against bed bugs. With this, some makers of bed bug fluids and professional exterminators do not agree. These latter point out that against both bed bugs and roaches, standard pyrethrum fly sprays are not as effective as they might be. It is maintained that the oil base which is suitable for a fly spray is not suitable for a bed bug liquid. Where a fly spray oil may flash at 125 to 175, they indicate that a bed bug oil should flash at 110 to 120, or as low as possible in keeping with fire regulations, which means a considerably lighter product for the latter. While a fly spray oil is supposed to remain suspended in the air in droplet form without too rapid evaporation, a quick, clean evaporation is desirable in a bed bug liquid. Furthermore, the lighter oil is held to be a more powerful solvent, and to attack more quickly the waxy and fat coating of both the bed bugs and their eggs.

Pyrethrum liquids made up especially for use against bed bugs in hotels, theatres, etc., do not ordinarily need to contain as much pyrethrum as a fly spray. Because of the fact that a bed bug liquid is used differently, that is the suspected hiding places are wet with the fluid and the insect is given a larger contact dose, a content of eight to ten ounces of pyrethrum per gallon of liquid, or its equivalent of pyrethrum extract, should suffice. Fly sprays range from twelve to sixteen ounces of pyrethrum or its equivalent per gallon.

The cost of the pyrethrum liquids is considerably higher than those made with cresylic acid. Frequently, the question has been asked how the pyrethrum type can be made up with a satisfactory kill but at a reduced cost. There is no way generally known to cut the cost materially by the addition of any product which is odorless. To cut down the pyrethrum content is to cut down the kill. So it is apparent that those who make and market this type of liquid must stand the higher cost and sell it at a higher price. There is no short cut to great profits here without cheating on the pyrethrum content.

Mention has been made of rotenone as a possible ingredient of bed bug fluids. In this connection, it has been stated by a manufacturer that freshly made liquids containing rotenone when tried out were unusually effective on bed bugs. However, the product in question when packed, lost its killing power rapidly, and there was also difficulty in keeping it in solution in the petroleum base. When first made up, he indicated, it was more effective than a comparable pyrethrum product.

Of the chemical products for use today in cattle sprays and other liquid insecticides, the only ones which are attracting attention commercially are certain of the organic sulfocyanides. These are available in the form of concentrates and are covered by patents. They find a use in being added in small percentages to pyrethrum sprays to boost the kill, although in some types of sprays, they are used alone as the insecticidal agent. Their possibilities as an ingredient of bed bug liquids is something which the various makers of liquids would have to determine for themselves by actual test.

There have been in years gone by other types of bed bug liquids which did not use a petroleum base, but most of them have disappeared from the market. These were usually various dilute water solutions of some poisonous compound, such as bichloride of mercury, or carbolic acid. The objections to this type of product are obvious. Their chief attraction lay in the fact that they cost extremely little to make up. In the same general class, were products containing formaldehyde which were of little or no use.

To summarize this brief discussion,—it seems that the sale of special bed bug liquids might be expanded if more products were marketed which were designed specifically for this purpose. Any bed bug liquid for use in better class theatres, hotels, etc., must meet

(*Turn to Page* 109)

FLOOR WAXES

Part II. The Gloss Drying Water Emulsion Type

By C. A. TYLER, Ph.D.

WATER emulsion waxes have eaten heavily into the market for the older volatile solvent type of floor wax, although some still prefer the latter. The water base type was developed to fill the needs of new types of flooring materials, such as rubber composition, mastic, cork, tile, etc., on which a volatile solvent wax cannot be used. The water base is similar to the volatile solvent base wax in that both are dispersions of wax and both contain carnauba wax. The water emulsion differs in that it is non-inflammable and produces a luster with little or no rubbing.

Carnauba wax is always used in a good water emulsion wax. Synthetic waxes with properties similar to carnauba are suitable, but much too expensive to find a wide use in floor wax. Candelilla wax can also be used. It is less expensive but does not produce as good a luster without buffing. It has the disadvantage in that it makes the emulsion reddish. Carnauba wax is one of the hardest waxes available. For this reason, a thin film of it on the floor wears well. It does not scuff up as a softer material would. Its concentration in the final emulsion is usually 9 to 12 per cent. If the wax content is too high, the product gels and then cannot be applied properly. When the emulsion is too thick, instead of getting a smooth surface, streaks will be formed. On the other hand, if too much water is present, too thin a film will be left and therefore insufficient wax to give a good luster. The water content should be about 85 per cent, as it has been found that the optimum concentration of total solids is 12 to 15 per cent. Of the commercial grades of carnauba wax, Yellow No. 1 gives the best floor wax. It gives a clearer film and does not discolor the floor. Other grades are also used, particularly the North Country grades, which are darker than Yellow No. 1. Products made from these have to be allowed to settle and the liquid, freed from dirt, decanted off from the top. The chalky grade contains some water and considerable dirt. It is not considered desirable for use in a good quality floor wax.

It is not possible to polish a floor simply with a piece of carnauba wax. It is so hard that it would scratch the surface and in addition it would not apply properly. One could not polish a floor readily with any other single wax, or with paraffin, since application would be impractical and with minor exceptions, the film would be too soft. Therefore some modification of the carnauba wax is essential. In the volatile solvent type of floor wax, carnauba wax is admixed with other waxes

and dispersed in a volatile solvent, in order to make application possible. In the case of the water waxes, a thin film of wax can be applied by first dispersing the wax in water to form a liquid emulsion.

In order to distribute the wax particles throughout the water, in which it is insoluble, it is necessary to use a dispersing agent. This is generally a soap, usually of low titre. Sodium, potassium, ammonium, or some form of ethanolamine soap may be used. The latter are the best emulsifying agents but the most expensive. It is far easier to obtain a satisfactory product with them. Sodium soap if used, tends to gel on long standing. Ammonium soaps may decompose and volatilize on heating, which makes control of the process difficult. Emulsions made with ammonium soap darken in storage, and on a light floor, the film may show a gradual darkening. Two soaps are sometimes used together. A definite limit has to be set on the amount of soap used because of its water-solubility and the fact that too much soap reduces the lustre of the wax. Therefore the minimum quantity of soap is used which will produce a satisfactory and stable emulsion. The presence of soap in the film deposited on the floor reduces the resistance of this film to water, and naturally, such a wax finish should never be washed with soap and water. In fact it is this problem of water resistance which interferes most in the use of self-polishing emulsion waxes.

Minor amounts of resins are used in most all water waxes. Shellac is the most commonly used resin. Rosin was used when the water emulsion waxes first appeared. The resinous material should not exceed 20 per cent of the wax content. Shellac aids in producing a lustre without buffing, although its presence is not absolutely essential for this. Shellac also makes up for the softness of the soap. The former is not soluble in water, but is soluble in weak alkali. It is therefore necessary to add caustic soda, ammonia, triethanolamine, or an alkaline salt such as borax. In the presence of alkali, shellac gives a clear transparent solution in water.

Bleached shellac was formerly used extensively. More recently the dewaxed or "refined" grades have been found much more satisfactory. Certain grades of refined unbleached shellac have an advantage over bleached shellac in that they can be stored for a longer time without deterioration. Refined bleached shellac is quite perishable. It becomes infusible on oxidatios and also insoluble in alkaline solutions.

Some manufacturers have had difficulty in using borax, due to gelling or solidification of the product in the cans many months after packaging. One can use triethanolamine or aqueous ammonia as alkali. The control of pH is very important, as the specification of linoleum manufacturers prohibits too much free alkalinity. Gelling on standing is probably a function of pH. The rubber manufacturers' specifications prohibit the presence of any free acid or "free oil," which includes fatty acids.

IN GENERAL, exact details of manufacture are pretty much trade secrets. The great problem with these products is to know how to put them together. An important feature is careful temperature control during the blending process. The wax is melted and the other ingredients added in such a way that an emulsion rather than a dispersion results. With the volatile solvent type of product, the wax is not in true solution. The "solvent" dissolves waxes at increased temperatures only, not at ordinary temperatures. The result is a dispersion of small particles of solid wax in naphtha. Perhaps less than 1 per cent of wax remains in true solution. Curiously enough, in the water type, where solvent action cannot possibly occur, a smoother and more liquid product is obtained because of the presence of the emulsifying agent. One cannot detect discreet particles in these emulsions under the microscope, that is, if properly made. The emulsions therefore behave like colloidal solutions. The exceedingly small particle size makes the emulsion stable.

A practical test of the stability of the emulsion is to spread out a thin film of the polish. If it dries with a bright lustre, the emulsion should be stable. If it does not, the product may show a separation on standing. Although the liquid in the water type costs nothing, the manufacturing cost of the two types is about the same, at least it is if the naphtha is bought in large enough quantities for the purchaser to secure a low price.

Two successful commercial products have the following approximate compositions:

Soda soap	0.9%	Soda soap	1.7%
Carnauba wax	8.8	Carnauba wax ...	8.7
Shellac	3.6	Shellac	1.3
Borax	0.7	Borax	1.4
Water	86.0	Water	86.9

These products will ordinarily dry in 20 minutes. They are very economical in use, as they have a covering power of about 3,000 square feet to a gallon.

A NUMBER of flooring manufacturers have announced definite specifications for finishing materials to be used on their floors. For example, the manufacturers of rubber flooring have issued the following specifications for rubber floor polish: "The material shall be a polish suitable for use on rubber flooring. It shall be of the type known as 'water wax polish,' preferably made from carnauba wax, although some beeswax may also be used. Shellac may be present in the 'non-rubbing' type. All polishes shall be free from rosin, caustic alkali, copper, manganese, and volatile solvents such as petroleum distillates, acetone, alcohol and carbon tetrachloride. The manufacturers of rubber floor polish shall not include in the instructions on the container, any recommendations contrary to the approved maintenance methods of the Rubber Flooring Division of the Rubber Manufacturers Association, Inc."

The procedure for the floor polish manufacturer who wishes to have his product approved is to authorize an

Perfumes For

THEATRE SPRAYS

It makes no difference whether you use alcohol or water as a base. We can supply an odor to meet your requirements—an odor that will prove popular with your customers.

A few suggestions

for alcohol base sprays

	Lb.
American Thistle No. 1010	$2.25
Lilac No. 59	2.50
Gardenia No. 1756	5.00
New Mown Hay No. 319	2.75
Peony No. 446	4.00
Rose No. 310	2.50
Trefle No. 619	2.85
Violet No. 611	3.10
Wild Flowers No. 5300	1.75

Used one ounce to two gallons of alcohol—either full strength or diluted

for water base sprays

	Lb.
Bouquet W. S. No. 636	$3.25
Honeysuckle W. S. No. 561	2.25
Narcissus W. S. No. 3855	2.75
New Mown Hay W. S. No. 260	2.50
Lilac W. S. No. 19	2.50
Oriental W. S. No. 3858	2.50
Rose W. S. No. 560	2.75
Trefle W. S. No. 4855	3.00
Violet W. S. No. 261	2.75

Used one ounce to three or five gallons of water according to strength desired

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approved chemical laboratory to purchase the polish in the open market and submit it to the chemical determinations outlined by the Rubber Manufacturers Association. The maker of the polish pays the laboratory bill.

The specifications covering approval of rubber floor cleaners may also be of interest: "The material shall be suitable for cleaning rubber floors, either polished or unpolished, and shall be free from anything which is detrimental to rubber flooring or which removes any appreciable amount of previously applied polish. It shall consist entirely of sodium carbonate, sodium bicarbonate or borax, or mixtures of these three alkalies, either in the form of a dry powder or a solution in water. If in the form of a solution, the liquid portion shall consist entirely of water."

Similarly, a number of manufacturers of linoleum, mastic tile, and related materials have combined to issue specifications for waxes to be used on their flooring products. A wax coating or similar protective finish is especially important on sheet linoleum, since without it the linoleum becomes brittle and cracks. In general, these floorings are of the resilient type and are relatively rather soft. They require a protective coating to give them long life. The main wear then comes on the wax, which can be readily renewed.

The following specifications are for water emulsion waxes to be used on linoleum, felt-base rugs and floor covering, linotile, cork tile, accotile, rubber tile, and similar hard-surfaced floor coverings: "This material shall be a carnauba wax-soap-water emulsion which is stable and suitable for use as a finish and protective coating for linoleum, linotile, accotile, etc. The addition of small quantities of other substances such as shellac, resins, etc., will be allowed provided the emulsion is suitable in all respects for the purpose intended. When applied it shall dry in a short time leaving a clear transparent film which may or may not be polished according to the desire of the user. It must comply with the following standards, the tests to be made by a disinterested testing laboratory. Any unusual feature of the wax under examination not covered by these specifications shall be reported by the analyst."

The standards given are as follows:

"Total solids—not less than 12%.
Insoluble in alcohol—not more than 3%.
Free alkali—not more than 0.15%.
Alkaline salts—not more than 0.25%.
Insoluble in water—not more than 1.0%.
Cold water soluble—not more than 20%.
Water resistance—Film shall not turn white, show any cloudiness or opacity, and its adhesion to the linoleum shall not be impaired."

The amount given for alkaline salts means free alkaline salts. A part of such salt combines with the shellac. The figure given here refers to the alkaline salts as determined by the method in the specification. This explains the discrepancy between this figure and the figure given in the commercial formulas.

IT IS advisable to give very specific directions for use on the label of all wax containers. The usual mistake is to rub on too much wax. The wax should be applied evenly and sparingly, usually with a soft cloth Too much wax makes the floor slippery. Previous to waxing, the old finish should be removed with turpentine or scrubbed with soap and water. When the floor is clean and dry, the wax is applied in a thin layer covering about two square feet at a time. A good method of application is through a double layer of cheesecloth. In this way it is squeezed through the cloth at about the desired rate.

It is better in general maintenance not to clean this wax finish by washing with soap and water. Cleaning with a dust mop should be sufficient. Stains can be removed by careful application of a solvent. Gasoline or kerosene should not be used because if these penetrate through to light wood flooring, they will turn it dark.

The great advantage of the water base wax is that it requires no buffing. The amount of labor required in buffing the solvent type of wax is appreciable. For large maintenance jobs, automatic buffing machines are used. The cost of these is eliminated by the use of self-polishing wax. Both waxes require the same preparation of the floor, the primary principle being that the floor be clean. Another big advantage of the water base wax is that it can be used on all types of floors, in particular on mastic tile and similar flooring materials where the other type of wax cannot be used, because naphtha is a solvent for the binder or for other ingredients in these flooring materials. Purchase of hydrocarbon solvent waxes is prohibited by government departments, partly, at least, because of the universal application of water waxes. The claim is made that water base waxes should not be applied to virgin wood, as the latter swells in contact with water. However, virgin wood is usually treated with a filler before any wax is applied.

Self-polishing wax has the main defect of leaving the emulsifying agent on the floor, so that there is a tendency toward re-emulsification when the floor gets wet. A good procedure to counteract this danger after the film of wax has been applied and allowed to dry thoroughly, is to wipe up the surface with plain cold water. This will dissolve a large proportion of the soap and leave the major part of the wax behind. The surface will subsequently be quite resistant to the effect of water, that is, to blushing or the formation of a white precipitate in the wax film.

The reason that water wax polishes require no buffing is that the wax film passes through a jellied stage on drying. The gel gives a continuous film, which accounts for the light reflection or the high lustre.

Comparative tests have been made with a self-polishing wax and with two of the largest selling liquid waxes made with a volatile solvent. The general composition of the three was as follows:

(Turn to Page 111)


"FOR STEADY UNIFORMITY, GIVE ME
Niagara
PARA!"
Manufacturers are definite in their demands for uniformity—in Paradichlorobenzene as in all important materials.
Once they find a product that is consistently uniform . . . always dependable, they stick to it, cease searching. That's why so many have settled on Niagara as a steady source of supply for Para. Niagara Para is a tried and trusty friend to many manufacturers. They do not hesitate to recommend it.
They say it with enthusiasm and conviction, "For steady uniformity, give me Niagara Para!"
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9 EAST FORTY - FIRST STREET, NEW YORK, N. Y.

The Significance of the PHENOL COEFFICIENT

By DR. GEORGE F. REDDISH*

Chief Bacteriologist, Lambert Pharmacal Co.

THE significance of the phenol coefficient of disinfectants and its relationship to the cost of such products to the consuming public has recently been discussed by Baird (1) and Klarmann (2). The arguments presented by these two authors appear to establish conclusions which are exactly opposite. Since the subject is one of such fundamental importance to both the manufacturer and the user of disinfectants, a further discussion of this whole matter seems in order at this time.

There is no disagreement as to the proper definition of the term "phenol coefficient." It is generally understood by all who are in any way connected with the making, selling and testing of disinfectants that the phenol coefficient is a figure arrived at by an arbitrary method of test which shows the relative germicidal efficiency of a disinfectant (which is chemically related to phenol) as compared to phenol against *Bacillus typhosus*. Unless otherwise stated, the term "phenol coefficient" actually signifies that only one micro-organism, *Bacillus typhosus*, is used as the test organism. The germicidal strength of disinfectants against other bacteria is neither indicated nor implied by the figure denoting its phenol coefficient.

It is common knowledge that the various species of bacteria vary in their resistance to germicides. It is also generally recognized that *Bacillus typhosus* is a species of bacteria of average resistance to disinfectants. The *Bacillus typhosus* phenol coefficient figure is, therefore, use only as an *index* of germicidal efficiency.

In actual practice it has been found expedient to use disinfectants in dilutions which are equal in germicidal efficiency to 5 per cent carbolic acid. This standard of excellence has been generally accepted because years of experience has shown that 5 per cent phenol is sufficiently germicidal to kill *all* the non-sporing pathogenic bacteria of epidemiologic importance under both laboratory and practical conditions. As a matter of fact, 5 per cent phenol is more than adequate in germicidal strength for killing the various disease-producing bacteria of epidemiologic importance; a margin of safety is had with this concentration of phenol which is not only desirable but necessary in order to take into consideration the varied conditions met with in practice.

In order to determine the dilution of a disinfectant (which is chemically related to phenol) which will equal 5 per cent phenol in germicidal strength, it is only necessary to multiply the phenol coefficient by 20. The concentration of a disinfectant arrived at by this calculation will be equal to 5 per cent phenol in germ-killing power, provided, of course, the disinfectant is closely related chemically to phenol.** For example, a 1-100 dilution of a coal tar disinfectant having a phenol coefficient of 5 will be equal in germ-killing power to 5 per cent phenol. These facts are so well known that they hardly need be repeated here except that a clear understanding of this factor is necessary for a proper evaluation of the arguments which follow.

What are disinfectants for and why are they used? Disinfectants are germicides which are used on inanimate objects for the purpose of killing disease germs which cause epidemiologic diseases. Their primary purpose is to aid in preventing the spread of diseases by killing the bacteria which cause them. Most diseases of bacterial origin are transmitted from one individual to another not only by direct contact, but indirectly. Disinfectants are employed to kill these disease germs after they have left the diseased individual and by doing so prevent healthy individuals from becoming infected with them.

It so happens that *all* bacteria which cause diseases of an epidemiologic nature are killed by 5 per cent phenol and by dilutions of phenol-like disinfectants which are equal to 5 per cent phenol in germicidal efficiency. For this reason it is safe to apply the above general rule for determining the proper dilution of disinfectants for practical use. In other words, a disinfectant diluted to 20 times its phenol coefficient will kill all disease germs of an epidemiologic nature (with the possible exception of the germs causing tuberculosis) and will be effective as a *disinfectant* for general use in this concentration. (3)

In an effort to disprove this established fact, Klarmann presents data which show that *Staphylococcus aureus* is not always killed by all disinfectants which have been diluted to 20 times their phenol coefficients. While this is a recognized fact, it does not detract in the least from the value of the phenol coefficient as a basis for calculating the proper dilution of a disinfectant for dis-

*Paper given before the 21st annual meeting, Nat'l Assn. Insecticide & Disinfectant Manufacturers, New York, Dec., 1934. Followed by discussion by Dr. Emil Klarmann, B. G. Philbrick, and Dr. William Dreyfus, which discussion is also published on following pages.

(1) Baird, C. C. High Coefficient Disinfectants. Do they represent the greatest germ-killing value per dollar of cost to average consumer? *Soap*, Vol. X, No. 9, Sept., 1934, p. 91.

(2) Klarmann, E. Phenol Coefficient—What Value? Is the phenol coefficient the sole criterion of the value of a disinfectant? A reply to C. C. Baird. *Soap*, Vol. X, No. 10, Oct., 1934, p. 93.

**"Closely related chemically to phenol" is used here to limit consideration to chemical substances which are phenolic homologues closely related to phenol and to exclude those substances which, while in the strict chemical sense are phenols, are not closely related to phenol itself.

(3) A list of factors which constitute margins of safety as referred to in this discussion of the phenol coefficient are:

1. Number of Organisms. In this test (F. D. A.) 700,000,000 *Bacillus typhosus* are employed. This number is killed by only 5 c.c. of diluted disinfectant. A quart of such a disinfectant in the same dilution will kill 140,000,000,000 *Bacillus typhosus* in 5 to 10 minutes. In the practical use of disinfectants it is never necessary to kill such large numbers of pathogenic bacteria, at least when applied to inanimate objects such as floors, furniture, etc.

2. Time Element. In laboratory tests these large numbers of organisms are exposed to the diluted disinfectant for 5, 10 and 15 minutes, whereas when used in practice the disinfectant acts for much longer periods of time.

3. Dilution for use in Practice. Although 2% phenol is recognized as a good germicide, disinfectants for practical use are diluted so that they will be equivalent to 5% phenol in germicidal activity.

4. Concentration Due to Drying. Taking for example a coal tar disinfectant with a phenol coefficient of 5, a 1-100 dilution is made for use in practice although 5 c.c. of a 1-450 dilution will kill 700,000,000 *Bacillus typhosus* in 10 minutes. When this 1-100 dilution, which is equivalent to 5% phenol against *Bacillus typhosus*, is applied to inanimate objects it becomes more concentrated due to drying, in which case greater germicidal efficiency is exerted due to greater concentration of germicidal units. For example, whereas the product is applied in dilution 1-100, it soon becomes, due to drying, 1-80, 1-50, and so on.

5. Resistance of the Test Organism. *Bacillus typhosus* is not the weakest of the pathogenic bacteria which could be used in this test. It represents approximately an average resistance. It is more resistant than the Gram negative cocci and is less resistant than the staphylococci. It is about equal in resistance to streptococci, pneumococci, and other bacteria causing epidemiologic diseases.

It is apparent from the above five factors, each of which constitute a margin of safety, that the use of any one of them might be sufficient for determining the proper dilution of a disinfectant for use in practice. Actually, however, no one factor is employed, but *all* five of them are used so that the dilution of a disinfectant used in practice, calculated to equal 5% phenol in germicidal power, will certainly be effective in killing *all* kinds of non-sporing disease germs, which cause epidemics, under all conditions.

infecting purposes. *Staphylococcus aureus* does not cause an epidemiologic disease. The public is not protected from *Staphylococcus aureus* infections by the simple process of killing this organism on inanimate objects. This pus-forming germ is continually present on the skin and mucous membranes of all animals, including man. Since this is the case, infection with this organism results from germs derived from the individual's own skin or mucous membranes. As a matter of fact, complete sterilization of the inanimate surroundings would not prevent such infection with *Staphylococcus aureus*.

When a disinfectant is recommended for use on or within the body of man or other animals, a special test is employed to determine its effectiveness for this purpose (i.e., for antiseptic uses). The *Bacillus typhosus* phenol coefficient test is not employed, but instead a special method is used in which *Staphylococcus aureus* is the test organism. This test, officially designated as the "F.D.A. Method (special) *Staphylococcus aureus*, 37° C.," is employed for testing soluble liquid germicides recommended for antiseptic uses.

Klarmann recognizes the logic of the above facts, but still contends that ". . . several micro-organisms of pathogenic and epidemiologic significance whose destruction should be aimed at in disinfecting procedure, do not compare with *B. typhosus* in regard to their resistance to disinfectants; therefore, the results obtained with this micro-organism cannot possibly furnish an accurate measure of the general disinfectant ability of a given preparation." The dilution of a disinfectant which is recommended for *general* use is approximately five times more concentrated than the dilution which kills *Bacillus typhosus*. For example, a coal tar disinfectant with a phenol coefficient of 5 kills *Bacillus typhosus* in a dilution of 1-450 in 10 minutes, but the dilution of this disinfectant which will be recommended for general use is 1-100, or 4.5 times more concentrated. This concentration of disinfectant, which is 4.5 times stronger than the dilution which will kill *Bacillus typhosus*, is sufficiently germicidal to kill *all* the other disease germs of epidemiologic importance.

It would seem, then, that the arguments of Klarmann against the use of the phenol coefficient as a basis for calculating dilutions of disinfectants for practical use are not valid. It is apparent that his arguments based on the differences in germicidal effectiveness of disinfectants against *Staphylococcus aureus* and *Bacillus typhosus* are not necessary. Proper dilution for practical use of such products can be accurately and reliably determined by multiplying the phenol coefficient by 20; this concentration can be safely employed for general application for killing the germs causing epidemiologic diseases. This is by far the simplest and most reliable method for arriving at the proper dilution of phenol-like compounds for use as disinfectants, but not, as shown above, for antiseptic uses.

Baird, on the other hand, has accepted the general principle that the proper dilution of disinfectants for general use can be ascertained by first determining the phenol coefficient and then multiplying this figure by 20. He is in error, however, in inferring that such dilutions can be employed for ". . . sterilizing the instruments of the surgeon, for treating many forms of cuts, wounds, sores, abrasions of the skin and to assist in the promotion of healing." He has indicated that dilutions for antiseptic uses can be calculated from the phenol coefficient. As indicated above, and as pointed out so conclusively by Klarmann, this is not the case. Dilutions for antiseptic uses, or for uses in which *Staphylococcus aureus* must be killed, are determined by another test in which this germ is the test organism. As Klarmann states, the ". . . *actual* germicidal potency" of such dilutions must be determined by special tests, and cannot be calculated with reliability from the phenol coefficient figure. Again it must be stated that this is the generally accepted procedure and has for years been employed by the U. S. Food and Drug Administration in the regulation of disinfectants.

This review of an old and much discussed subject would be out of order at this time except for the fact that in the above quoted papers by two well-informed members of the disinfectant industry some confusion seems still to exist relative to this all-important subject. It is hoped that the present attempt to restate the fundamental principles regarding the value, as well as the limitations, of the phenol coefficient will be of some assistance in clarifying the points raised by the two above-mentioned papers. It may be desirable from time to time to evaluate the real significance of the phenol coefficient so that we may continue to appreciate its value and, at the same time, recognize and admit its limitations. The phenol coefficient test has been useful to the disinfectant industry and to the consuming public for over thirty years; with a proper appreciation of its significance it will continue to be valuable to both manufacturer and the public as a reliable index of the value of disinfectants for the purposes for which they are intended.

DISCUSSION

DR. EMIL KLARMANN (Lehn & Fink, Inc., Bloomfield, N. J.): If any of you gentlemen are interested enough to re-read my paper ("Phenol Coefficient,—What Value?" SOAP, Oct., 1934, p. 93) the statement is made that I fully appreciate the value of the phenol coefficient. I also agree with all those who want to have the phenol coefficient statement appear on the label because it does definitely help in eliminating some of the products of minor value for which a disinfectant or germicidal action is claimed, but which actually possess no such action.

But there is one thing I should like to have you keep in mind. Do not let us forget that the phenol coefficient is not something which has been in existence for generations. It is comparatively recent. Let us also remember that the phenol coefficient, and the ideas associated with it have undergone changes. It was first introduced in England in one form; it was then found to be in need of improvement; it was adopted in this country, it was published as a Hygienic Laboratory coefficient. This was satisfactory for a time. And then some defects were discovered. And I for one do not believe that any of us will stop at this point and simply declare something as perpetual which is, after all, a product of scientific thought, scientific technique, and which may require modifications as time goes on, just as many other conceptions which were regarded as firmly established, had to be modified as new experimental evidence became available.

So long as the Food and Drug Administration phenol coefficient serves satisfactorily, there is no reason to give it up, but it is better that we within the Association inquire as to its value and become familiar with all its aspects so that we don't have to be told by anybody from the outside that something is wrong.

There has never been any question as to what the phenol coefficient means. If you remember, a discussion arose recently because of the publication of a paper by Mr. Baird which was entitled, if I remember right—"Do Higher Phenol Coefficient Disinfectants Give the Consumer the Greatest Value?" (SOAP, Sept., 1934). Thus it is not a question of the significance or interpretation of the phenol coefficient, but it is, rather, a question of the relationship between the true value of a disinfectant and its cost to the consumer.

What I had to say in reference to Mr. Baird's paper was done directly in connection with his paper. He made certain statements. I took it upon myself to state my own position with reference to them for the simple reason that I felt under an obligation to supply information which I considered more correct than that supplied by Mr. Baird.

I have no reason to modify the paper which I pub-

lished in SOAP. I explained to Dr. Reddish that I did not question the germicidal strength of the 5 per cent phenol solution, or did I express any doubt that the 5 per cent phenol solution or a solution which compares in germicidal strength to a 5 per cent phenol solution, in the case of a compound which is related to phenol, is adequate to destroy pathogenic vegetative micro-organisms.

If you consult any of the publications, the original R. and W. method, or the Hygienic Laboratory booklet, you will find there that phenol coefficient methods should be applied to disinfectants derived from phenol derivatives or to coal tar disinfectants generally. That is something which is a matter of established practice.

Phenol has the chemical formula, C_6H_5OH. A phenol derivative would be a substance which is derived from phenol. If in the nucleus I would substitute any of the hydrogen atoms, by what is known as an alkyl group, if I would place in this position the group CH_3 (writes on blackboard), I would obtain a substance known as paramethylphenol or paracresol. If I place the CH_3 group in this position, I would obtain an orthomethylphenol or orthocresol. In this position here, metacresol. But all of these are phenol homologs directly related to phenol.

If I put in two methyl groups here, I would get a dimethylphenol. And this substance is known as xylenol. This again is a phenol derivative directly derived from phenol. It is possible to introduce into the nucleus of phenol any number of carbon atoms and thus get all these phenol homologs.

Now, if you plot in a graph the substituting groups in the nucleus against the germicidal action of the product you will get something as follows: Let us start with phenol at zero and let us say that it has a germicidal effect of 1. As we go along, to methylphenol which is cresol, and to higher phenols, the curve of germicidal efficacy rises at first, and it is really remarkable, from a bacteriological point of view, that with such different micro-organisms, as, for instance, B. typhosus, Staphylococcus aureus, Streptococcus hemolyticus, Mycobacterium tuberculosis, and also most pathogenic fungi, the curve of germicidal efficacy rises; and there is a parallelism of action in that all of these curves go almost parallel.

I will draw four curves representing staphylococcus, B. typhosus, Streptococcus and T. B. Up to this point of four substituting carbon atoms there is a parallelism of germicidal efficacy. Now, if you take a phenol derivative that contains not more than four carbon atoms in the side chain, and express the germicidal efficacy of it in terms of phenol coefficient you would be practically correct in assuming that the phenol coefficient describes its efficacy with reference to other micro-organisms as well. In other words, if you take a disinfectant with a phenol coefficient of 1 in this group of disinfectants, and then another disinfectant with a coefficient of 2, you will be justified in saying not only that the disinfectant with the phenol coefficient of 2 is twice as strong against B. typhosus as that with the phenol coefficient of 1, but, more than that, that it is also about twice as strong against Staphylococcus, Streptococcus and Mycobacterium tuberculosis.

In other words, there is a parallelism in the germicidal action on all the organisms. Three times, five times, ten times the B. typhosus coefficient means approximately three times, five times, ten times the effect against other micro-organisms.

But, unfortunately, this does not hold indefinitely. We come to a point after reaching four carbon atoms where some of the curves continue to rise, parallel as the Staphylococcus curve and the M. tuberculosis curve, but the B. typhosus curve turns and then goes down. You come to a point where you have 7 or 8 substitution carbon atoms, and where the effect on B. typhosus drops to practically nil, but the effect against Staphylococcus reaches tremendous figures, in terms of Staphylococcus phenol coefficients. I give you this information to indicate what is known today about the relationship between the germicidal action and chemical structure of phenol derivatives.

The coal tar disinfectants involve the use of two types of substances. One class calls for phenol and phenol derivatives, and if these substances alone are used you can make clear solutions. From coal tar there can be separated a part which is not soluble in alkali and that part consists mostly of hydrocarbons. The simplest aromatic hydrocarbon is benzene. Phenol has a hydroxyl group and benzene has none. There is no direct connection between a hydrocarbon and a phenol and properly you cannot, according to what I have told you before, expect any parallelism of efficacy in comparing hydrocarbons and phenols.

If you take a disinfectant which has a B. typhosus phenol coefficient of 2, let us say Liquor Cresolis Compositus, and you determine the phenol coefficient of this same disinfectant with respect to Staphylococcus aureus, you may find that it is 1.5. I am not quite sure of this figure but let us assume it is 1.5. Now, it is perfectly possible to prepare a disinfectant with a phenol coefficient of 2, not containing 50 per cent cresol as a U. S. P. product should contain, but containing a varying proportion, say, 10 to 40 per cent, of these hydrocarbon oils which are not phenol derivatives. Again, you will get a phenol coefficient of 2 or more with respect to B. typhosus, but you will observe that against Staphylococcus aureus the phenol coefficient will drop to maybe .5 or even less. Now, it is immediately evident that you cannot speak of a similarity of the two compounds to which you are applying the same testing method because in reality they are dissimilar.

I refer to the paper in SOAP and where I said that this question of specific action against one group of germs to the exclusion of other groups is not a characteristic quality of any group of disinfectants. I said that this question does not have to be raised with many disinfectants but that there are some where it has to be raised.

Now, let us consider some so-called tar oil disinfectants. I write on this table that there exists a disinfectant with a phenol coefficient, let us say, 3.3. I am marking it "T. O." for tar oil, and it has a phenol coefficient against B. typhosus of 3.3; it has a phenol coefficient against Staphylococcus aureus of 1.0. And then there is another disinfectant also a tar oil disinfectant, of the same B. typhosus phenol coefficient or even of a higher phenol coefficient of 3.6, but it has a Straphylococcus aureus phenol coefficient of 0.3. You would do an injustice to the disinfectant with a B. typhosus phenol coefficient of 3.3 and a Staphylococcus aureus coefficient of 1.0 if you said that this disinfectant is of a lower value than a disinfectant with a phenol coefficient of 3.6 against B. typhosus but only of .3 against Staphylococcus aureus.

That is the point at issue in my discussion with Mr. Baird. What I am trying to bring out here is that you have to consider other points besides B. typhosus phenol coefficient. If manufacturer A makes a tar oil disinfectant with a phenol coefficient against B. typhosus of 20 but its effect against Staphylococcus is 5, and if B manufactures a disinfectant with a phenol coefficient of 20 against B. typhosus but the effect against Staphylococcus aureus is 10, then, gentlemen, there is absolutely no way of indicating the greater value of one over the other if you consider the B. typhosus coefficient as the one and only determining factor.

At this point I want to refer to Dr. Reddish's remarks on the germicidal efficacy of a 5 per cent solution. I want you to remember that I did not inject this issue of the 5 per cent phenol solution. That was something that Dr. Reddish thought expedient to bring up for consideration. We know that arbitrarily we have set up a concentration of phenol which we assume to be germicidal to all pathogenic vegetative micro-organisms. It is readily admitted that this phenol solution is germicidal in this

sense. It is also admitted that a phenol derivative—and by that I mean a substance related to phenol—within limits can be relied upon to be effective in a concentration which corresponds in its strength to a 5 per cent phenol solution.

In other words, if phenol kills B. typhosus in a dilution of 1 to 90, and if you take a concentration which is 1 to 20 or, in other words, four and one-half times stronger, then you may expect that a compound which has a phenol coefficient of 2, therefore twice as strong, will show a comparable effect in a concentration of half the strength —that is, 1 to 40,—but all the time, you must remember, that this holds true only of phenol derivatives.

(. . . *Official Reporter's Note*: At this point Dr. Klarmann continued with the phenol coefficient, concentration and kill of the various products illustrated roughly on the blackboard. As the visual effect is destroyed in just a verbatim transcript, these sentences are not included.)

Dr. Reddish said that in testing these disinfectants he uses Streptococcus strains which are freshly isolated. I will admit that the strain which we used is a little more resistant than Dr. Reddish's freshly isolated strain. I think he agrees with me that the freshly isolated strain would be killed by a 1 to 90-100 phenol solution. But that does not mean that because it compares in its resistance to phenol with B. typhosus that it will act in the same fashion in the presence of all other disinfectants which may contain a varying proportion of hydrocarbons. You can expect some such relationship in phenol derivatives as they are close to one another, but there is no scientific basis for any such relation in respect to other ingredients.

As to Dr. Reddish's insistence on the safety factors, please remember that these safety factors are simply introduced because we cannot rely on the phenol coefficient. In the case of Staphylococcus aureus we are not using them. But we are introducing this factor of safety here because we are afraid that the disinfectant will not kill, because there are other micro-organisms of greater resistance, or micro-organisms which do not parallel B. typhosus with respect to their behavior in the presence of disinfectants not related to phenol.

I am speaking of methods all the time. I have no doubt that if you disinfect with a solution prepared on the basis of a concentration which is 20 times the phenol coefficient that you will in practice achieve satisfactory results. But we are concerned with the question of evaluation of disinfectants on the basis of the phenol coefficients and because of these tremendous discrepancies in the germicidal efficacy of a disinfectant with respect to B. typhosus and to other micro-organisms I said that you cannot describe the value of disinfectants by quoting its phenol coefficient against B. typhosus alone.

BURTON G. PHILBRICK (Skinner & Sherman, Inc., Boston, Mass.): I want to say that while some of my thoughts may be somewhat along the lines of the first introduction made by Dr. Klarmann, they are entirely independent. I do not see that Mr. Baird and Dr. Klarmann were very far apart except that Mr. Baird in his enthusiasm had made that break which we all make once in a while in including the action on wounds and surgical operations and so forth. That, I think, has been well taken care of by Dr. Reddish's paper and by Dr. Klarmann.

Doubtless if Mr. Baird had thought about that he would have said that what he really was trying to express was that given the same types of phenol disinfectants the only thing that we had at the present time was a phenol coefficient and he would have said that for use against Staphylococcus aureus he would have used a phenol coefficient against Staphylococcus aureus.

Now, granting that is so, I sort of looked around to see what is demanded of a disinfectant. I am going to ignore considerable that has been said on the technical side because I think that there is no need of discussion.

As I make it out,—and if you happen to have looked around and seen what is demanded of disinfectants,—you won't find much regarding that in general terms. But from what I have gleaned in my experience that which is demanded is to kill micro-organisms; in other words, it must have what we are pleased to call a phenol coefficient. If it is to be used on inanimate objects it must not be corrosive, or, at least, strongly corrosive. Furthermore, if it must be used by application for most part by the hand, by the scrub woman, it must not be excessively irritating or if you want to call it such, corrosive to the hands. Thirdly, it must have stability. There will be some question raised about that, but I think the phenols have stability under the conditions where you demand the stability.

Now, it is also a fact in using a disinfectant we also demand ordinarily, the purchaser of an institution demands, that it usually has some cleaning power. He considers that in his specifications and in the use of it.

And next comes the cost. If you can buy a thing a dozen for 24 cents or a dozen for six cents, why, it is cheaper to buy them for six cents.

Now, then, there must be the matter of a clear solution in water or otherwise. It must be dilutable. Then, of course, in all these things we come to the length of action and we have taken pretty good care of that in our use and in the fact that they are strong enough so that they will do their work in the ordinary time of application. I cannot see therefore that there is much argument upon the question of cost and the phenol coefficient.

I have been 21 years testing disinfectants and I have seen the thing go through from the R. W., Hygienic Laboratory, F. D. A., back to the Hygienic Laboratory and the R. W. Modified, and the F. D. A. we have today and the R. W. Modified in the new British Standard. In other words, the phenol coefficient has been changing from time to time. It is a matter of growth. First, it made little difference what the strength of your typhoid germ was. Then we called it the Hopkins strain. The Hopkins strain might be quite weak. And we got our first real advance after a number of years when Reddish brought out his methods which have now been adopted and we do get an organism of a certain definite strain. In other words, we are standardizing our method.

Now, I think that Dr. Klarmann is right, but, that he probably is about five to ten years ahead of the education of the public. In other words, we are just now getting that phenol coefficient on to all the packages of coal tar disinfectants and it is going to take some time for us to get the full value of that to the trade and to the public and to ourselves.

However, I believe that we must, as manufacturers, be looking forward to the time when, possibly next year under the new Pure Food and Drug Law, the Consumers' Research League may want to know a little bit more about disinfectants. And so I figure that you should know it yourself. I don't mean to say that you need to put it on your labels now but I think it should be known.

And so I accept in part Dr. Klarmann's idea, but think it is ahead of the times at present.

Speaking along that same line, I sometimes wonder if we haven't overlooked some things in selling disinfectants. I am wondering whether you know just what the relationship is between your reaction to B. typhosus and to some of the animal diseases that you treat or recommend for. There is a tendency at the present time to try to slip over from the phenol coefficient to stating the strength of the disinfectant to be used for example for combatting athlete's foot, and I for my part don't believe you can do it.

DR. WILLIAM DREYFUS (West Disinfecting Company, Long Island City, N. Y.): I have no fault with Dr. Klarmann's theories as expressed here on the floor, but I repeat that this is not the proper forum. That belongs to a scientific society where the members can understand and discuss the subject. What is before the house is Mr.

Baird's paper, entitled, "High Coefficient Disinfectants—Do They Represent the Greatest Germ-Killing Value Per Dollar of Cost to Average Consumer?" Mr. Baird is the president of Baird & McGuire. The title of Dr. Klarmann's article in SOAP is, "Phenol Coefficient—What Value? Is the Phenol Coefficient the Sole Criterion of the Value of a Disinfectant?—A Reply to C. C. Baird." Dr. Klarmann is chief chemist of Lehn & Fink, Inc. Both gentlemen speak from a commercial standpoint and I am trying to do the same. I am trying to speak in the language which you all understand, namely, that of marketing disinfectants.

As to the coefficient history it would take too long to go back to now. But I dug out some papers giving references to Rideal and Walker as early as 1903, Firth and McFadden, 1910; Kenwood and Hewlett, 1906; Somerville and Walker, 1906; Dr. W. Blyth, "Standardization of Disinfectants," 1906; Drs. Chick and Martin, "The principle involved in standardization of disinfectants and the influence of organic matter upon germicidal value," 1908. All those authors pioneered in England.

We have on record here Bulletin 82 of the Hygienic Laboratory of the United States Public Health Service, Treasury Department, showing you the evolution of coefficiency.

First, we had the Rideal-Walker Method; the Hygienic Laboratory came along and tried to make that method more stringent, more conservative, to protect the consumer as much as possible on the factor of safety by testing disinfectants in the presence of organic matter as well. Later the United States Department of Agriculture, Division of Food and Drug Administration, improved on the Hy-Lab. Method, making it more stringent by including not only B. typhosus but also Staphylococcu aureus. And I am going to read you just a part of this. (Reading)

"Wherever any expression of phenol coefficient occurs in literature, on labels, etc., it is assumed to mean the E. typhi phenol coefficient, unless otherwise stated. It is, however, the distinct intention of this department not to limit the test to the use of one organism. In fact, the test has been found acceptable to the use of a wide variety of bacterial species in the determination of phenol coefficients.***

"In the bacteriological examination of disinfectants, the Eberthella typhi and the S. aureus phenol coefficients give, in general, sufficient information to render tests with other organisms unnecessary, except in special instances. The commonly accepted criterion that disinfectants for general use be employed at a dilution equivalent to the germicidal efficiency of 5 per cent. phenol against E. typhi (that is, 20 times the E. typhi phenol coefficient) allows a reasonable margin of safety for the destruction of infective agents likely to be the object of general disinfection about premises with the possible exception of Mycobacterium tuberculosis. S. aureus, due to its ubiquity, resistance and ever-ready tendency to cause infection, should always be employed in testing those substances recommended for personal use or as applications for wounds."

I want to point out to you that every factor necessary for the public to be protected against fraud is incorporated in those official tests. Why should we worry on theory? Let the Government authorities develop a new method if they consider the existing standards are not stringent enough.

Dr. Reddish in his very able paper on the criticism of the two articles of Mr. Baird and Dr. Klarmann published in SOAP covered the arguments fully from a scientific standpoint, and I shall endeavor to bring out some supplementary criticism gained through long practical experience in the disinfectant industry.

Mr. Baird in his article is retracing steps some of us covered more than twenty years ago. The whole disinfectant industry in this country was brought to terms by the birth of the Insecticide Act of 1910, which began to be enforced from 1912 on, and has since resulted in the welcomed fact that the manufacturer must tell the truth. This Government control gave the meaning of a phenol coefficient statement a fixed value, because prior to that time the bulk of disinfectant manufacturers over here sold their products with imaginary coefficient claims and the sky was the limit, although the earth was the truth.

Mr. Baird's statement of superior money value for the high testing disinfectants naturally only applies to the emulsifying coal-tar type, because pine oil disinfectants and cresol disinfectants are by force limited to medium coefficiency ranging from three to five.

The trade at large in this country consumes a relatively small percentage of high testing coal tar disinfectants in the range of a 20 coefficient compared with the sale of coal-tar disinfectants in the range of 5 to 10. In the British Empire, however, the sale of high testing disinfectants has almost completely displaced the lower ones, because Government institutions, such as the War Department, the Admiralty, Departments of Public Works, and similar Government institutions purchase their disinfectants on bids, based on the unit cost of disinfecting value.

In America a few industrial plants, some hospitals and sanitoria, and similar institutions are about the only consumers who appreciate high testing disinfectants, because they can control the dosage by intelligent labor, whereas the average customer claims that his employees will use just as much of the high coefficient disinfectant at a greater cost than he does with a low coefficient disinfectant, and the advantage of unit cost of disinfectant value is lost to him.

The disinfectant with a coefficient of 2 is today practically obsolete and mostly used for deodorizing purposes, for insecticidal work, such as mosquitocide or lavacide, or for anti-fermentation purposes against which the coefficiency of the high testing disinfectants would be irrelevant, particularly on account of different chemical composition of the two types.

Although I fully agree in principle with Mr. Baird's comparison of germicidal efficiency with cost of disinfectant value, there are other exceptions besides those priorly mentioned where the consumer prefers a coal tar product of medium coefficiency irrespective of cost, particularly when he buys a cleaning disinfectant where the properties of cleaning and disinfecting are combined into one operation, and for which purposes the high testing disinfectants of a 20 coefficient are not adapted so well.

Dr. Klarmann's exceptions to Mr. Baird's statements are principally academic, and appear to me a defense for the cresylic group of disinfectants comprising products which give clear solutions with water. It seems to me that this group by forceful education of the principal consumer, such as our Government institutions, hospitals, etc., should lose out completely in competition with high testing coal-tar disinfectants of the emulsifying type, be it for practical work or for therapeutic purposes. The emulsifying coal-tar groups are less caustic, considerably less toxic and more healing.

As I pointed out in my last year's committee report that the coal tar disinfectants forming emulsions in water ranging in B. typhosus coefficients from about 7 to 17, show a proportionate reduction of coefficiency when tested against Staphylococcus aureus amounting to a loss of almost two-thirds of their original B. typhosus coefficient, whereas the cresylic type of disinfectants forming a clear solution in water loses a little less than half of its original B. typhosus coefficient when tested against Staphylococcus aureus by the F. D. A. Method at 20 degrees Centigrade, which would mean that a 20 B. typhosus coefficient coal-tar disinfectant would still have a Staphylococcus coefficient of about 7, whereas a cresylic disinfectant with its limited B. typhosus coefficient of maximum 5 to 6 would only possess a Staphylococcus coefficient of about 2 to 3, quite insufficient to combat many cases of infection caused by these organisms, whether the product is sold as a disinfectant or as a germicide.

In regard to advantage of physical properties of mak-

(*Turn to Page* 113)

Fight Restrictive Legislation

BULLETINS bearing on the Copeland Bill and various proposed state bills affecting disinfectants, antiseptics, germicides, insecticides, etc., have been issued recently by John Wright, secretary, National Association of Insecticide & Disinfectant Manufacturers. These bulletins are published in part herewith. In connection with the flood of adverse legislation which is pending in fifteen or twenty states, Mr. Wright is particularly anxious that every manufacturer use his influence with his agents and dealers in the various states to register protests against the pending bills. He also urges all manufacturers within the states also not to fail to wire or write in protest. The latest bulletins state in part:

"There is now pending in California Assembly Bill No. 1282, in North Dakota Senate Bill No. 136 (Bill defeated in vote of house), and in Connecticut Senate Bill No. 452. These bills all regulate the manufacture, sale and advertising of foods, drugs and cosmetics. In many details they copy the language of the pending Federal bill. It is the opinion of your Legislative Committee that the passage of State Bills prior to the amendment to the Federal law is extremely ill advised. There will undoubtedly be amendments in S. 5 before there is any possible chance of its passing Congress. If an impossible situation is to be avoided through the enactment of State legislation in conflict with Federal legislation, State action must be delayed until the Federal issue is finally decided. We strongly recommend that each and every member of this Association *write* or *wire at once to the following*:

(1) Chairman, Committee on Public Health and Quarantine, State House, Sacramento, California, protesting against Assembly Bill No. 1282.

(2) Dr. Culver Ladd, State Chemist, Bismarck, North Dakota, protesting against Senate Bill No. 136.

(3) Speaker of the House, State House, Hartford, Conn., protesting against Senate Bill No. 452.

Restrictive Sales and Poison Bills

"There are pending in many States restrictive sales bills which may be enforced in such a way as to impose a very serious burden upon the sale of antiseptics and disinfectants. In fact, such a bill has already become a law in the State of Oregon and in the State of Arizona. More or less similar bills are now pending in the following States:

Idaho House Bill No. 67
Indiana Senate Bill No. 130
Iowa House Bill No. 128
Maine House Paper No. 1349
Massachusetts House Bill No. 902
Minnesota House Bill No. 413
New Jersey House Bill No. 197
North Carolina Senate Bill 205
New York State No. Int. 548
Rhode Island Senate Bill No. 95
Vermont House Bill No. 160-161
Wyoming House Bill No. 175.

Protests against the passage of all of these bills should be filed at once by each member of our Association and any others who would be effective. The basis of your protest should be that for the protection of the welfare of the public there is no justification for bills of this type which would place an entirely unreasonable and unjustifiable burden upon many common articles of commerce now widely sold through grocery stores, general stores, hardware stores, etc.

(Reports indicate that Texas House Bill No. 262 has been killed.)

It is extremely important to note that Food and Drug legislation following S. 5 in many respects has already been introduced in the States of California Bill No. 1282, North Dakota Bill No. 136, and Connecticut Bill No. 851. When one realizes that many of the offenses under this type of legislation are to be established by the administrative body *by regulation* at some later date, it is not hard to understand that an entirely impossible situation may result. For example, in Senator Copeland's Bill S. 5 the Food and Drug Administration is granted authority to establish by regulation the methods to be used in testing antiseptics, germicides and disinfectants. In California this power is placed with the State Board of Health. You are all familiar with the vast differences in results which may obtain through slight variations in methods of bacteriological testing. One can easily foresee a situation developing which might require a manufacturer to put out forty-eight different products, one for each individual state! And, even then, not be able to ship them in interstate commerce because of conflict with the federal regulations."

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The 24th annual meeting of the American Drug Manufacturers Association is to be held May 6 to 9, at the Homestead, Hot Springs, Va. A. A. Wasserscheid, chairman of the committee on entertainment, is proceeding with arrangements for the meeting and will shortly mail out the first bulletin to members regarding rates and reservations.

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Ferdinand Weber, George Lueders & Co., New York, was elected president of the Essential Oil Dealers Association at the annual meeting of the organization in New York last month. Other officers are: A. D. Armstrong, Fritzsche Brothers, Inc., vice-president and Fred Stichweh, James B. Horner, Inc., secretary and treasurer. Ernest R. Vetterlein of P. R. Dreyer Inc., and Harry C. Ryland of H. C. Ryland Co., complete the board of directors.

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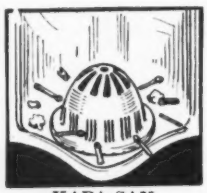

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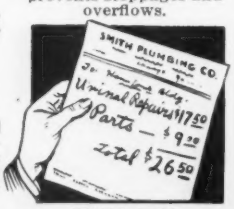

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What Suggestion,—If Any?

TO THE membership of the National Association of Insecticide & Disinfectant Manufacturers, and to those in the industry who are not members, I want to report unusual progress in activities thus far in 1935. Already important committees are functioning. Plans formulated at two meeting of officers and the Board of Governors held thus far, have met with enthusiasm and cooperation by the member firms. A continuation of this earnest cooperation throughout the year will mean a great increase in the value of the work of the Association to the industry. Your officers want your suggestions,—your criticism, your approval, your new ideas,—and also they will gladly welcome suggestions from firms in the industry which are not members of the Association. It is your Association, serving your industry. We are away to a remarkably fine start. Let's all help to keep it up!

C. P. McCORMICK, President,
National Association of
Insecticide & Disinfectant
Manufacturers.

New officers have been named as follows by Gibson-Howell Co., Jersey City, drugs and cosmetics: John G. Woltjen, president, J. L. Greenberg, vice-president, and William Zeffert, secretary.

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A floor waxing compound consists of a block of wax impregnated with a compressible binder such as hair or fiber. The wax is extruded onto the surface to be finished when pressure is applied. Alfred D. Creer. Canadian Patent No. 348,807.

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A report of the Odorgraphia Committee of the Associated Manufacturers of Toilet Articles has recently been made public, listing dyestuffs and colors suitable for use in toilet preparations, together with the names of makers supplying them.

—— ♦ ——

Robinson Wagner Co., chemical importers, moved early this month to 24 State Street, New York, where larger quarters have been taken. A laboratory will be equipped to furnish technical information and service to customers.

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Percy C. Magnus, president of Magnus, Mabee & Reynard, New York, has been re-elected president of the New York Board of Trade by the directors of that organization. This will be Mr. Magnus' third year in this office.

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Frederick C. Theile, president of P. R. Dreyer, Inc., returned to New York early in March after an extensive trip during which he conferred with representatives of his company all over the country.

M. J. Flanagan of Federal Varnish Company, Chicago, landed in San Francisco on March 6 following a trip to Honolulu. Mr. Flanagan spent several weeks in Hawaii.

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U. S. Sanitary Specialties Corp., Chicago, announce the appointment of the Grinnell Co. of the Pacific, Los Angeles, as a distributor for their line of sanitary products.

—— ♦ ——

Dodge Cork Co., Lancaster, Pa., makers of corks and molded caps, have opened a branch office and warehouse at 231 Sansome St., San Francisco, in charge of Roland E. McCune, and also an office at 76 University St., Seattle, under John B. Merifield. O. Lockwood Williams is sales manager for the Dodge company.

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Picciano Bros., Inc., Croton-on-Hudson, N. Y., has been organized by D. E. and M. A. Picciano to manufacture and sell perfume specialties and oils. The principals were formerly with Compagnie Parento, Inc., Croton-on-Hudson.

—— ♦ ——

Mathieson Alkali Works earned net profit of $1,165,836 during 1934, equal after preferred dividends to $1.20 a share on 830,714 no-par common shares. This compares with $1,224,078 or $1.70 a share, on 623,263 common shares outstanding in 1933.

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Christian Beilstein, vice-president of Dodge & Olcott Co., New York, until his retirement in 1926, died last month at the age of 67. Mr. Beilstein first joined Dodge & Olcott Co. in 1891. He became secretary of the firm in 1905 and was elected first vice-president in 1918.

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A strike at the Baton Rouge, La., plant of Solvay Process Co. tied up the plant for a week last month. A dispute over wages was amicably settled and the men returned to work.

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Carbide and Carbon Chemicals Corporation has just released a new issue of its "Synthetic Organic Chemicals" booklet describing its chemical products, "Vinylite" resins, activated carbon, "Pyrofax" and other hydrocarbon gases of high purity. Although many of these products are relatively new in a commercial sense, they have already found extensive use in widely diversified industries and new applications are constantly being developed. Information regarding certain of the characteristics and uses of these compounds has only recently become available. The data given in this book are intended to outline some of their applications and so to present the important characteristics of the products that new uses will be suggested. A new feature of this issue is a solubility table. In it are tabulated the solvent power of some 42 solvents for about a dozen industrially important oils and resins. Copies of the booklet may be obtained by addressing the company at 30 East 42nd St., New York, mentioning the name of SOAP.

MECHANIC'S HAND SOAP

(*From Page 22*)

per cent fatty anhydrides, 1.5 per cent glycerine and 1.5 per cent sodium carbonate. However, this analysis was on a dry basis and merely showed the relative proportions of solid ingredients.

OF THE use in hand pastes of silicate of soda and mineral oil or petroleum jelly, something might be said. When mixed with mineral oil, the silicate produces a heavy paste which acts to give the product body and also to hold the abrasive material in suspension while the product is cooling. In the use of soda carbonate, it is interesting to note that a 36 deg. Be solution of this material, boiled and allowed to cool before adding to the soap mixture is more effective in producing a heavier and smoother soap than adding dry soda ash and then water directly in the mix.

Of all the soap combinations suitable for a base for hand pastes, a mixture of coconut oil and tallow soap is perhaps best. The tallow tends to add body to the lather while the coconut oil soap gives a quick lather. Where the soap content of the paste is low, this gives the most satisfactory cleansing.

For those who remember back, it was during the World War that hand paste makers had their troubles with containers. Owing to the scarcity of tin cans and the high prices, they used various types of fibre and paper cans which were then not made as they are today. The fibre absorbed most of the moisture from the soap, causing a very rapid drying out. The result usually was a half filled container with a hard lump of soap in the center when opened for use. Today suitably treated fibre cans are available which are cheap and satisfactory. Also tin containers are plentiful and the cost is low. One or two hand soaps have even been noted on the market packed in glass jars with fancy caps.

Apparently the chief need in the hand soap business today is an elimination of about two-thirds of the products on the market, or else an improvement in quality so that they can sell at prices more in keeping with the general line of higher grade products. Making a hand soap without a practical knowledge of the business, or making a soap down to meet a cheap price cannot do anything else but result in a poor product. A good hand soap is not a product to be made "with a barrel and a shovel," and the sooner some of the small local makers appreciate this, the sooner will general quality improve.

EDITOR'S NOTE: For those who are interested in changing their products to conform to U. S. Government Specifications, the specifications for hand paste soap as well as powdered hand soap and cake grit soap are given on pages 148 and 150 of the 1935 Soap Blue Book.

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Stanco, Inc., New York, has announced a radio advertising campaign in Brazil on "Flit" for 1935.

DR. C. H. PEET DIES SUDDENLY

Dr. Charles H. Peet of the Rohm & Haas Co., Philadelphia, a member of the Board of the National Association of Insecticide & Disinfectant Manufacturers, and widely recognized authority on insecticides and insecticide testing, died suddenly on February 27 at Bellevue Hospital, New York. Dr. Peet was stricken with a cerebral hemorrhage while attending a meeting of the Board of Governors of the Insecticide and Disinfectant Association at the Hotel McAlpin, New York. He was rushed to the hospital and heroic efforts were made to save his life, but he died within a few hours without regaining consciousness. With him when he died was his wife who came to New York from their home in Bristol, Penna.

Charles H. Peet

Dr. Peet was widely known for his scientific work with insecticides. He was co-author of the standard official method for testing liquid household insecticides, the Peet-Grady Test. He developed the manufacture of various organic sulfocyanides for use in insecticides. He was the author of numerous contributions to the literature on insecticides. He was chairman of the Insecticide Standardization Committee of the national association as well as a member of the Board. He was a Ph.D. in organic chemistry with degrees from the University of Michigan and the University of Illinois. He was 42 years old and a native of Michigan. He is survived by his wife and three children. Funeral services were held Sunday, March 3, from his home at Bristol, Pa.

—— ♦ ——

PENICK TAKES OVER M. G. K. BOTANICALS

S. B. Penick & Co., New York and Chicago, have acquired the complete line of botanical drugs and related materials formerly sold by McLaughlin Gormley King Co., Minneapolis, and in the future will handle all orders for these products. The sale does not affect the other lines of McLaughlin Gormley King Co., such as pyrethrum, derris, concentrated extracts, disinfectants, horticultural sprays, etc., which will be featured more extensively than ever. S. B. Penick & Co. carry large stocks of a complete variety of botanicals at their Chicago office at 1228 West Kinzie Street, as well as in New York.

—— ♦ ——

Sprays composed of white oil impregnated with pyrethrum extract and emulsified with powdered skim milk were applied at ten-day intervals during the period when codling-moth larvae were trying to enter the apple. They gave as high a degree of protection from codling-moth as did lead arsenate. However, unless they were used at high dilutions and with much care, the sprays produced an accumulative deleterious effect on the trees. T. J. Headlee. *New Jersey Agr.* **15,** No. 2, 4-5.

NEW YORK EXTERMINATORS MEET MAR. 28

The third annual meeting of the New York Society of Exterminators and Fumigators will be held on Thursday, March 28, at the Hotel Pennsylvania, New York. The problem of local labor unions in the exterminating industry will be discussed as well as other important local problems. Election of officers for 1935-36 will also take place. The annual informal banquet will be held in the evening at 6:30. The speakers will include Dr. John Oberwager, Sanitation Superintendent, New York City Department of Health; Dr. E. D. Free of New York University, on sound detection of termite infection; D. J. Sullivan, Chief Health Officer of Jersey City, N. J. on the new New Jersey exterminating law; E. M. Mills of U. S. Department of Agriculture on rodent control work; A. L. Kramer of the Knickerbocker Laundries; Dr. Edward D. Bocker, Chief of the Drug Division, N. Y. Department of Health; and Dr. John L. Rice, New York Commissioner of Health. Arrangements are in charge of N. K. Concannon, executive secretary of the Society.

BED BUG LIQUIDS

(*From Page 88*)

certain requirements which are not being met by the older type products. Even the general run of fly sprays on the market do not meet these requirements. The requirements are (1) little or no residual odor of kerosene, (2) light, quickly dissipated perfume, (3) effective kill on bed bugs, (4) evaporate quickly and not stain carpets, shades, drapes, wall paper, mattresses, etc, (5) not poisonous or corrosive. A pyrethrum spray, the equivalent of eight to ten ounces of pyrethrum per gallon, in a light water-white deodorized petroleum, containing no perfume or less than 1/4 of one per cent of a light odor, seems to meet the requirements. The raw material cost of such a product would run between 45c and 50c per gallon, according to quantity.

Where odor is not a factor and where the product is to be used by professional exterminators, a one or two per cent solution of cresylic acid in water-white kerosene is effective and satisfactory. A product of this type costs but a fraction of the pyrethrum product, a rough calculation giving raw material cost at about ten cents per gallon. This type of liquid, it is held, also has the advantage in institutions of making places where it is used bed bug-proof for a considerable period.

William Vogel & Sons, Inc., Brooklyn, manufacturers of hand sprayers, tin cans, and sheet metal specialties, has been reorganized. Louis H. Vogel is now president and general manager, and E. M. Pletcher is general sales manager. William H. Vogel, former president, W. Martin Vogel, and S. H. Samuels have retired from the company. The firm is one of the oldest can and metal specialty manufacturers in the United States, having been founded in 1867.

FLOOR WAXES—WATER EMULSION TYPE

(*From Page 93*)

	Water Base Wax	*Liquid Wax 1*	*Liquid Wax 2*
Carnauba wax	9.2%	7.6%	5.6%
Total solids	13.2%	11.6%	8.5%
Volatile matter	86.8%	88.4%	91.5%
Calculated to Dry Basis			
Carnauba wax	69.84%	65.51%	65.89%
Other ingredients	30.16%	34.49%	34.11%

SINCE the hardness of the film deposited on the floor surface has a direct bearing upon the wearing qualities, tests were made with the total solids from the three polishes, as well as with carnauba wax alone. The total solids of a liquid wax are the film forming ingredients. The method used to obtain the data was a modification of the Brinnell method of determining the hardness of metals. Hardness decreased in the following order: carnauba wax, water base wax, liquid wax 1, and liquid wax 2. Since the self-polishing liquid contained more carnauba wax than the other two, it would be expected that the hardness of the solids would be greater. The hardness of wearing quality can be expected to be proportional to the amount of carnauba wax present.

It is important to know the melting point of wax films deposited on a floor surface. This is an index to the relative softening of the film in areas which are heated in winter or to the probability of softening in summer months. Wax films when softened naturally mark or leave imprints more easily. The melting points of the total solids from the same three waxes compared with that of carnauba wax, were found to be as follows:

Carnauba wax	179.5° F.
Water base wax	179.5
Liquid wax 1	166.0
Liquid wax 2	167.0

The water wax film has the same melting point as carnauba wax, but the solvent type wax films have appreciably lower melting points. Therefore the water wax film should have better wearing properties at elevated temperatures than those of the other two products, which are typical of the organic solvent type of liquid floor wax.

Performance tests were also made with the same three products. The waxes were applied in three strips to a much traversed area in a public building. After the volatile solvent waxes were polished, the three strips were similar in appearance. At the end of the day, the strips were observed for wear. In this trial the water base wax stood up better than the others. The solvent waxes showed footprints more noticeably and became dulled by the accumulation of dirt on the surface more quickly than areas waxed with the self-polishing wax. The same test made on a rainy day, however, might not be so favorable to the water base product.

Daniel L. Morris spoke at the February 26 luncheon meeting of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, held at the Hotel McAlpin. His topic was "How to Protect Your Product from counterfeiters and Imitators".

PHENOL COEFFICIENT

(*From Page* 101)

ing a clear solution in water against an emulsion, I only know of one case,—namely, the sterilization of instruments,—and this can readily be accomplished with high coefficient disinfectants by dissolving them in alcohol, in which they make a perfectly clear solution.

I fully agree with Dr. Klarmann's criticism that the phenol coefficient appearing on the package is based upon one micro-organism only, namely, B. typhosus, and that as a rule does not furnish any information as to possible effects upon other kinds of germs. However, in my opinion it does furnish sufficient comparison of respective bacteriological strength between two disinfectants tested against the same organism by the same standard method.

However, my Committee has frequently recommended that each member make a more thorough scientific investigation of the disinfectants they sell, because besides the B. typhosus coefficient the phenol coefficient values against various pathogenic organisms not only give information for the purpose of labeling but aid very materially physicians, public health officers, and other authorities who are called upon continually for advice on the use of these products in connections with all types of sanitary problems and epidemiologic diseases.

If we are to be progressive, it is essential that we know our own products better than anyone else, and then we can with greater intelligence advise others how to use them properly and in dilutions that will safely meet all requirements.

—— ♦ ——

A disinfectant consists of a combination of water-soluble persulfates and rhodanide or other reducing agent such as a sulfite. Catharina Weidner. Canadian Patent No. 348,096.

COMING!

A discussion of drain pipe openers and toilet bowl cleansers, — distinctly specialties of the sanitary products and janitor supply trades,— will be discussed from the angle of manufacture, composition, and use in an early issue of SOAP. Watch for the article.

Spanish production of household and agricultural insecticides is increasing at the expense of imports. It is said that the petroleum monopoly now finds it more advantageous to sell petroleum to domestic insecticide manufacturers than to collect taxes on imported finished insecticides. The United States is the chief supplier of both household and agricultural insecticides. An American agricultural spray will be compounded locally in the near future. An American brand of household fly spray, which is compounded locally, is the chief product of its type, although about 12 domestic brands compete for a share of the trade.

—— ♦ ——

Wilson & Bennett Mfg. Co., steel containers, Chicago, announce the appointment of James H. Brown as their sales representative in Toledo. Mr. Brown is thoroughly familiar with the steel container business, having formerly been associated with Detroit Steel Barrel Company and American Steel Package Company.

Addington Doolittle, president of Compagnie Parento, Croton-on-Hudson, New York, returned from a European trip early this month. While abroad he appointed a representative in France to look after the interests of Compagnie Parento, Inc., and Compagnie Parento, Ltd., Toronto. In the future absolute flower oils and other French oils will be supplied under the Parento label. A further increase is also forecast in the productive capacity of the Croton plant.

♦

The American Dental Association has failed to endorse "Calox" toothpaste, product of McKesson & Robbins, because of objections to the way it is being promoted.

♦

Bristol-Myers Co. earned net profit of $1,973,561 during 1934, equal to $2.82 a share on 700,280 shares of its stock. This compares with $2,156,151, or $3.07 a share, in the previous year.

♦

Albert A. Hyde, chairman of the board of the Mentholatum Co., died in Wichita, Kansas, recently at the age of eighty-six. Mr. Hyde was originally a soap maker, operating a small soap plant in Wichita before he first marketed the product which later made him famous.

♦

Sefton National Fibre Can Co., St. Louis, has filed a reorganization petition in U. S. District Court, seeking a rearrangement of capital stock to provide greater working capital. It is stated that the proceedings will in no way affect the company's business which will be carried on as heretofore.

♦

A daughter, Barbara Joan, was born recently to Mr. and Mrs. Eugene C. Barton. Mr. Barton is vice-president of Compagnie Parento, Inc., in charge of Canadian sales.

♦

Parke, Davis & Co., Detroit, earned net profit of $8,719,368 for 1934, equal to $1.80 a share on the common stock. This compares with $6,902,683, or $1.41 a share, in the previous year.

♦

Cornelius Dejonge, assistant superintendent of E. R. Squibb & Sons, Brooklyn, died January 26 after a long illness. Mr. Dejonge was sixty-two years old and had been with the company since 1897.

SWEEPING COMPOUND

The composition, manufacture, uses and characteristics of modern sweeping compounds will be discussed in an authoritative article in the April issue of SOAP. A staff investigation and study of products on the market today. If you are interested in sweeping compounds, do not miss the April issue!

CLASSIFIED ADVERTISING

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Note: All advertisements must be in publisher's hands by the first of the month for that month's issue.

Positions Wanted

Superintendent and Soapmaker—Can make and analyze all kinds of soap and soap material. Address Box No. 529, care *Soap*.

Soapmaker and Chemist—Thoroughly familiar with the manufacture of laundry, textile and toilet soaps, soap powders, etc., and having ample experience in oil and fat refining, glycerine recovery, analytical work, seeks permanent connection with progressive concern. Address Box No. 530, care *Soap*.

Soapmaker—Twenty years' experience. Can make and analyze all kinds of soaps and products. Salary reasonable and hard worker. Address Box No. 521, care *Soap*.

Insecticides—plant superintendent and chemist who has had twenty years' experience in manufacturing insecticides and ten years' experience with biological and chemical control of leading fly spray manufacturer, seeks new connection. Highest references. Address Box No. 528, care *Soap*.

Soapmaker-Perfumer: All kinds laundry, toilet, potash soaps. Perfumery, cosmetics, glycerine recovery—make analyses—install plants. Escribo castellano. Address Box No. 526, care *Soap*.

Chemist—young man, married, has made shampoo soaps, soft soaps, and special soap mixtures. Has had charge of production and laboratory. Five years' experience; available immediately. Address Box No. 516, *Soap*.

Sales Manager—Seven years personal sales promotion experience opening new accounts for national concern, metropolitan New York territory, selling soaps, powders, detergents, to hotels, institutions, hospitals, restaurants. Large personal following. Self-starter, Gilt-edge references. Present employed. P. O. Box 34, Woodhaven, N. Y.

Salesman—Now located on Pacific Coast. Six years' experience selling exterminating service in East with unusually successful record on large contract work. Recent experience sale chemical on Coast. Desires to make new connection in San Francisco or near by. Address Box 531, care *Soap.*

Chemist and Soapmaker—Young, married, wants new permanent connection. Experienced in equipment installation, manufacture and control of soap, soap powder, industrial and household cleaners. References furnished. Address Box No. 502, care *Soap.*

POSITIONS OPEN

Soapmaker—Experienced in laundry chip oil and bar soaps; full knowledge of kettle room; Chicago district; Give age, experience, and salary wanted; Steady employment for a man of initiative and not afraid to work. Address Box No. 501, care *Soap.*

Want to represent large soap and detergent manufacturer as agent in Philadelphia. Have contact with consumers. Address Box No. 507, care *Soap.*

A Prominent Manufacturer of liquid soaps, disinfectants, deodorizing cakes, etc., has an opening for a dependable sales representative. Address Box No. 522, care *Soap.*

Miscellaneous

Wanted—Paper soap sheets in the form of small books of a dozen or two pages, each sheet good for one hand washing. Supplier will please communicate with mid-west manufacturer through Box No. 518, care *Soap.*

Liquid Shave Soap—The original liquid shave soap available for manufacturing and marketing by a company of standing with established sales connections. Product now manufactured and sold in a small way. Finest product of its kind. Will work on a royalty basis. Communicate with owner by addressing Box No. 523, care *Soap.*

Hand Cleaner—New type of powdered hand cleaner containing no grit or abrasive and meeting unusual success on Canadian market, now available to American distributor for sale in the United States. If interested, communicate with Box No. 524, care *Soap.*

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn.

Salesmen—many years' experience, soap, insecticide and disinfectantline, wants to invest for partnership with small manufacturer or practical chemist. Has large Greater New York trade. Address Box No. 515, care *Soap*.

Soap Plant — Large modern factory, fully equipped, located in East, for sale. Will rent to responsible firm or individual. Address Box No. 472, care *Soap*.

Wanted—Jumbo Plodder, ten or twelve inches and one slab chipper. Address Box No. 510, care *Soap*.

Wanted—Another foot power para press, good condition; Houchin preferred. Give full details. Spic & Span Co., 420 Villita St., San Antonio, Tex.

Want broker who has connections with out of town jobbers and chain stores to sell a high-grade cleansing fluid. Address Box No. 517, care *Soap*.

The annual dinner dance of the employees of Fritzsche Bros., Inc., New York, was held last month at the Hotel Astor, with one hundred and thirty of the one hundred and sixty employees in attendance.

—♦—

Thomas G. Cranwell, founder of Continental Can Co., died in Atlantic City last month at the age of seventy-two. Mr. Cranwell had been in ill health for a number of years and retired from all business activities about five years ago.

—♦—

M. S. Huffman of San Francisco has been elected a director of Continental Can Co. to fill the vacancy caused by the death of T. G. Cranwell. Mr. Huffman will also continue in his present capacity as business manager of the company's operations in the San Francisco district.

—♦—

"How to Prepare and Use Glues, Pastes and Gums" is the title of an instructive handbook just issued by the National Adhesives Corporation, New York. This handbook is one of a series published by National Adhesives to show users of glues how they can secure better results and stop waste due to improper handling. A second booklet, entitled "How to Glue Cellophane, Sylphrap, Protectoid and Kodapak", explains how to tell these various tissues apart, how to distinguish moisture-proof tissues from non-moisture-proof, and how to determine the type of adhesive required for various gluing operations. The company offers to send either or both of these handbooks to any interested user of adhesives requesting them. They may be secured from National Adhesives' New York headquarters, or from its offices at Chicago, Boston, Philadelphia, San Francisco, or Seattle.

Where to buy

RAW MATERIALS AND EQUIPMENT

for the Manufacture of Soaps and Sanitary Products

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 126, for page numbers. *"Say you saw it in SOAP."*

ALKALIES

Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Stauffer Chemical Co.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

American-British Chemical Supplies
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer, Inc.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Merck & Co.
Monsanto Chemical Co.
Naugatuck Chemical Co.
Schimmel & Co.
Solvay Sales Corp.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

BULK AND PRIVATE BRAND PRODUCTS

An-Fo Manufacturing Co.
Baird & McGuire, Inc.
Clifton Chemical Co.
Davies-Young Soap Co.
Eagle Soap Corp.
Federal Varnish Co.
Fuld Bros.
Hammond Paint & Chemical Co.
Harley Soap Co.
Hysan Products Co.
Hull Co.
Koppers Products Co.
Kranich Soap Co.
Palmer Products
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American-British Chemical Supplies
Bowker Chemical Co.
Columbia Alkali Co.
T. G. Cooper & Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Grasselli Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Co.
Innis, Speiden & Co.
Mechling Bros. Chemical Co.
Merck & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Solvay Sales Corp.
Standard Silicate Co.
Stauffer Chemical Co.
Swann Chemical Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS
(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
Baird & McGuire, Inc.
Barrett Co.
T. G. Cooper & Co.
Innis, Speiden & Co.
Koppers Products Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

CONTAINERS

American Can Co. (Tin Cans, Steel Pails)
Anchor Cap & Closure Corp. (Tubes & Bottles)
Cin-Made Corp. (Paper Cans)
Continental Can Co. (Tin Cans)
Maryland Glass Corp. (Bottles)
Metal Package Corp. (Tin Cans)
Owens-Illinois Glass Co. (Bottles, Pails and Drums)
Wm. Vogel & Bro. (Tin Cans)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Cin-Made Corp. (Paper)
Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Hysan Products Co.
Palmer Products, Inc.

ESSENTIAL OILS

Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer Inc.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Mabee & Reynard, Inc.
Schimmel & Co.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

(Continued from page 124)

PROFESSIONAL DIRECTORY

RAW MATERIAL AND EQUIPMENT GUIDE

(*Continued from page* 122)

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MACHINERY

Blanchard Machine Co. (Soap Powder)
Ertel Engineering Corp. (Filters, Mixers, Bottle Fillers)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Package Machinery Co. (Packaging)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Stokes & Smith Co. (Packing Machinery)
U. S. Bottlers Machinery Co. (Bottle Filling and Cleaning)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.
Stein-Brill Co.

MISCELLANEOUS

Anchor Cap & Closure Corp. (Metal Caps)
T. G. Cooper & Co. (Waxes)
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
General Naval Stores Co. (Pine Oil-Rosin)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Co. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants and Waxes)
Pylam Products Co. (Lathering Agent)
Rohm & Haas Co. (Insecticide Base)
Sanitor Mfg. Co. (Paper Seat Covers)

OILS AND FATS

T. G. Cooper & Co.
Industrial Chemical Sales Co.
Leghorn Trading Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Theobald Annual By-Products Refinery
Welch, Holme & Clark Co.
Woburn Degreasing Co.

PARADICHLORBENZENE

Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Merck & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING COMPOUNDS

Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer, Inc.
Felton Chemical Corp.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Atlantic Refining Co.
O'Connor & Kremp
Sherwood Petroleum Co
L. Sonneborn Sons.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrenthrum Extract, Derris Products

An-Fo Mfg. Co. (Extract)
W. Benkert & Co.
Hammond Paint & Chemical Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
S. B. Penick & Co.
John Powell & Co.
Sherwood Petroleum Co.

SOAP COLORS

Fezandie & Sperrle
Interstate Color Co.
Pylam Products Co.

SOAP DISPENSERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Palmer Products

SODIUM SILICATE

General Chemical Co.
Grasselli Chemical Co.
Mechling Bros. Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SPRAYERS

Breuer Electric Mfg. Co.
Dobbins Mfg. Co.
Hudson Mfg. Co.
Lowell Sprayer Co.
Wm. Vogel & Bro.

TRI SODIUM PHOSPHATE

Bowker Chemical Co.
General Chemical Co.
Grasselli Chemical Co.
Swann Chemical Co.
Victor Chemical Works
Warner Chemical Co.

INDEX TO ADVERTISERS

For product classification see pages 122 and 124

*For Further details see announcement in 1935 SOAP BLUE

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omission.

NOTICE!

A report on the circulation of SOAP for the second half of 1934, subject to annual audit by the Audit Bureau of Circulations is now ready. This report shows an increase of 12% in net paid circulation and 6% in gross circulation over the first six-months of 1934.

This latest audit also shows the following facts of material interest to every advertiser in SOAP and to every firm contemplating advertising in the publication:

1. SOAP has subscriptions in 41 states and in Territories of the United States. In addition, the foreign paid circulation of SOAP goes to 45 different countries.
2. The audited subscription renewal rate for SOAP is 72.19%,—an unusually high percentage.
3. 84% of all paid subscriptions to SOAP were sold direct by mail at the full $3.00 price,—not by high-pressure canvassers who get 100% commission and frequently a bonus besides to force up "paid" circulation in name but not in fact. (The balance were sold through recognized subscription agencies at a 10% discount.) SOAP subscriptions represent truly paid circulation, backed by A.B.C. audit,—not merely by an advertising solicitor's **claims.**

In the entire manufacturing field of soaps, drugs, chemicals, insecticides, cosmetics, sanitary specialties, and related products, SOAP is the only A.B.C. publication, — that is, the only magazine with proved circulation,—with the exception of two chemical engineering papers. There are seven other publications in the fields named above, competing for the same class of business. They all **claim** enough to qualify for membership in the Audit Bureau or the Controlled Circulation Audit (free circulation),—but none of them are members of these recognized circulation-proving agencies. **Why!**

MAC NAIR - DORLAND COMPANY, INC.

Publishers

254 WEST 31st STREET **NEW YORK CITY**